

Rapid desk-based evidence search to support a Business case for support to Afghanistan's transport, energy and water infrastructure sectors



Dr Yusaf Samiullah

5 August 2013



**EVIDENCE
ON DEMAND**

CLIMATE & ENVIRONMENT
INFRASTRUCTURE | LIVELIHOODS



This report has been produced by Dr Yusuf Samiullah for Evidence on Demand with the assistance of the UK Department for International Development (DFID) contracted through the Climate, Environment, Infrastructure and Livelihoods Professional Evidence and Applied Knowledge Services (CEIL PEAKS) programme, jointly managed by HTSPE Limited and IMC Worldwide Limited.

The views expressed in the report are entirely those of the author and do not necessarily represent DFID's own views or policies, or those of Evidence on Demand. Comments and discussion on items related to content and opinion should be addressed to the author, via enquiries@evidencedemand.org

DOI: http://dx.doi.org/10.12774/eod_hd.august2013.samiullah



Contents

| | |
|--|----|
| Report Summary | ii |
| SECTION A..... | 1 |
| Afghanistan – Additional supporting information for the Business Case | 1 |
| SECTION B..... | 5 |
| Infrastructure and extractive industries – Rapid Review..... | 5 |
| SECTION C..... | 9 |
| Overview – infrastructure in fragile and conflict-affected states | 9 |
| SECTION D..... | 10 |
| Strengthening the role of civil society and/or user groups in service delivery quality | 10 |
| SECTION E..... | 13 |
| Virtuous and vicious circles, willingness to pay and infrastructure services – some examples | 13 |
| SECTION F | 16 |
| Infrastructure needs in Asia – background and macro-economic overview..... | 16 |

List of Boxes

| | |
|---|----|
| Box 1 Turkmenistan and Global Energy Security | 17 |
|---|----|



Report Summary

In this mini-review are to be found (a) additional details on Afghanistan's economy and growth to support the overall Business case; (b) a rapid review of infrastructure and the extractive industries; (c) a brief overview of infrastructure in fragile and conflict-affected states; (d) an evidence note on strengthening the role of civil society and/or user groups in service delivery quality (where attitudes are partly determined by prior experience and expectations); (e) examples of "virtuous and vicious circles" and willingness to pay for infrastructure services (water & energy focus); and (f) a short background note and macro-economic overview of infrastructure needs in Asia (Energy & Water) and a summary of an evaluation of a decade of World Bank Transport Sector funding.



SECTION A

Afghanistan – Additional supporting information for the Business Case


1. *Economy and Growth*

The next 2 years before the government assumes full responsibility for security in 2014 will be critical. Security and political uncertainties, including a presidential election, will weigh heavily on the direction the country takes. To ensure economic stability and a sound basis for transition, the government will have to fulfil commitments made under the Tokyo Mutual Accountability Framework and implement various policy and institutional reforms agreed under the current IMF program.

GDP growth is estimated to have accelerated to 11.9% in 2012, following 7.2% expansion a year earlier, entirely due to the strong performance of agriculture, as weather improved from a drought in 2011. Private consumption, buoyed by international aid flows, much of it related to security, remained the main source of growth. Aid fuelled most of the demand for goods and services, especially in construction. Private investment increased slightly to 8.4% of GDP in 2012, as a 20% retrenchment by small and medium-sized enterprises was offset by a 26% increase in new investments in aviation, industry, agriculture, and real estate by large companies that began to shift their business focus from internationally funded security projects to enterprises catering to local demand. Strong growth in agriculture, at 31.5%, reflected favourable weather, especially in the north. Wheat production, which accounts for three-fourths of cereal production, grew by 48%. Growth in industry slowed to 7.2% from 9.8% in 2011, mainly because of slower expansion in manufacturing and construction caused by protracted power shortages and spending cramped by the uncertain political and security situation. Growth in services, which accounts for about half of GDP, slowed to 7.3% from 12.7% in 2011, attributed to reduced spending by international security forces and by the local population because of uncertainty in the run-up to 2014. Opium production fell from the equivalent of 7% of GDP in 2011 to 4% in 2012 as disease and unfavourable weather afflicted the main growing areas. The value of opium production is estimated to have halved from \$1.4 billion in 2011 to \$0.7 billion in 2012. Opium is not counted as part of GDP, but earnings generated by its sale that are retained and spent in Afghanistan boost domestic demand. Average consumer price inflation almost halved to 6.2% in 2012 from 11.8% in 2011, mainly on account of a sharp drop in food prices, as the good harvest boosted domestic food supplies.

2. *Policy challenge – funding the transition*

The withdrawal of international security forces by the end of 2014 and the transition to Afghans assuming full responsibility for security will put pressure on public expenditures and widen fiscal gaps. These pressures arise mainly from having to expand security and development expenditure that was previously provided by international forces, as well as covering the recurrent costs of public assets built by development partners. Consequently, IMF projections show public expenditures growing significantly to reach 39% of GDP by 2025. Domestic revenues, by contrast, are expected to reach only 17% of GDP by 2025, leaving a significant financing gap equal to 22% of GDP. To cover this gap initially, development partners at the 2012 conference in Tokyo pledged \$16 billion for development through 2015, conditional on improved governance and transparency. They reconfirmed



their commitment to channel half of aid through the budget and align 80% of their programs with national priority programs. In 2012, members of the North Atlantic Treaty Organisation pledged \$4.1 billion a year to fund security costs after 2014. Afghanistan has large mineral resources potentially worth about \$1 trillion, according to the US Geological Survey. If developed, these resources could provide a solid base for economic development. The government has agreed with international companies to establish large projects to mine copper and iron ore. However, implementing these projects will require a substantially improved security environment. Government revenue from an oil production project in the Amu Darya Basin is estimated to be \$64 million in 2013 and \$90 million in 2014¹.

3. National Priority Programmes in Afghanistan

In July 2010, the GoIRA published a summary of National Priority Programmes to be implemented under the Economic and Infrastructure Development Cluster. These identified key governance and political stability conditions that need to be established to ensure Afghanistan's growth prospects are realized². While the revenue prospects from extractives is indeed large, it is dwarfed by the revenue potential arising from non-extractive industry taxes and the economic growth prospects from timely and effective implementation of good policies and investments. The possible impacts include the following:


- **Growth effects:** Based on preliminary estimates of successful implementation of EID and Governance Cluster programs, by 2025, contribution to GDP from related components of the services sector (c20%) and industry (c25%) would represent an increase from 18% to almost 50% of GDP, with GDP potentially increasing to \$80 billion from the 2009 level of \$13 billion. A further decade could see GDP reach a quarter of trillion US dollars³. Revenue Effects include increasing the net revenue earning potential by the Ministry of Mines to \$1 billion by 2017 and \$3 billion by 2025. Second round tax revenues would also increase exponentially up to 2025 followed by diminishing increases⁴.
- **Employment effects:** Derived from a variety of sources including: (i) 10 million labour days derived from construction related activity in the EID Cluster's flagship program: the National- Regional Integrated Resource Corridor Program (NR-IRCP); (ii) 1 million sustainable jobs from supporting the Small and Medium Enterprises (SME) from increased export opportunities and import substitution; with (iii) further substantial increases with successful implementation of SME support and good

¹ Sources used by ADB ADO 2013: World Bank. 2011. Economic Update for Afghanistan. October; International Monetary Fund. 2011. *Country Report* No. 11/330. November; Da Afghanistan Bank. <http://www.centralbank.gov.af> (accessed 4 March 2013).)

² 2010 (July) GoIRA, *The Economic and Infrastructure Development Cluster: National Priority Programs*, 89pp, http://www.geopolicity.com/upload/content/pub_1287642222_regular.pdf

³ Agriculture, industry and service sectors now account for around 30%, 30% and 40% respectively, with the informal sector currently estimated to be around 50% of GDP. With successful implementation of the other EID cluster programs, and on the basis of preliminary estimates, these sector shares are expected to be around 10%, 35% and 55% by 2025. After the resource and construction boom, GDP would have increased six-fold, with the informal sector coming under 10% of formal GDP. Extractives related production would account for half of GDP, with mining increasing from 1% of GDP to around 20%. Key services including transport, communications, storage, financial and trade services would account for around a third of GDP.

⁴ More robust estimation of revenue impacts will require development of the Long-Term Extractive industries Fiscal Model for Afghanistan (LEFMA) and a supporting macroeconomic model.



urban planning to build communities including around strategic extractive industry and resource corridors hubs. Second round employment opportunities through impacts on growth are substantial.

It was concluded that the urgent focus of the Government of Afghanistan must therefore be on returns to formal growth and revenue generation to secure the core functions of state over the medium to longer term, creating long term employment opportunities in the process, thereby allowing for a progressive easing in external support thereafter. Currently, domestic revenues cover only 59.94 per cent of operating expenditures, meaning that donor grants to cover operating costs equal Afs.48 billion or circa US\$1 billion. Furthermore, with a total deficit in the development budget (core and external) of around US\$1.5 billion, for a total annual budget deficit of US\$2.5 billion, the need for a major “surge” in revenue generation has never been more important. This entails a narrative focus on “narrow” growth, and a surge in revenues mobilization in support of a policy of broad-based growth through redistribution.


4. *Afghanistan Mining Sector – Aynak Copper & Hajigak Iron Ore*

The benefits and opportunities for large-scale mining in Afghanistan were studied by the World Bank in an attempt to quantify the benefits that could be obtained for Afghanistan from the developments of the Aynak copper and Hajigak iron ore deposits and to discuss policies and programs - based on the experience of other countries - that would tend to maximize the benefits from these and other mines. The report is caveated such that achievement of impacts will be heavily dependent on reaching a level of security to allow for mining the deposits, discovering new deposits, and creating infrastructure for functional linkage industries. Strong sector and macroeconomic governance is also a pre-requisite if the impacts are going to significantly increase beyond the mine site; such governance will also help to minimize cultural, social, and environmental costs. Major infrastructure investments in rail and power would also be needed to support the mining industry⁵.

The central quantitative estimation is that the 2011-40 average annual direct impact on national income would be about US\$745 million (or 8.1 percent of 2008 GNI), not including linkage or multiplier effects (*from the base (medium impact) case*). When procurement to local suppliers is included, this figure rises to US\$ 1.04 billion or 11.3 percent of 2008 GNI.

The average annual direct impact on fiscal revenues is calculated at US\$511 million - 54 percent of 2008-09 revenues, an impact that easily could be twice as high if the sector and its revenues are able to generate significant other economic activities. While annual direct employment in the mines is calculated to only increase by 6,400, if the fiscal revenues are used judiciously to develop infrastructure and linkage industries, this number could be several times higher due to indirect and induced employment. Of course, the more successful is the management of government expenditures, the higher will be the final impact on income and employment. The average annual exports of the two mines from 2016-40 is calculated to be US\$2.3 billion - almost 4 times total official exports of goods and services in 2009 and still 10 percent higher than official exports, smuggling, & transit trade - although the impact on the balance of payments is much smaller at US\$630 million when repatriated profits, imported inputs, and imports of consumer goods are deducted (*In most of the simulations, copper was set at \$3/lb and iron ore at \$125/tonne. If January 2011 prices*

⁵ 2011 (Feb 22) World Bank, McMahon, G & Tracy, B, SEGOM, *The Afghanistan Mining sector as a Driver of Sustainable Growth: Benefits and opportunities for Large-Scale Mining*, 53pp, Paper No. 68259, <https://openknowledge.worldbank.org/handle/10986/12370>



are used, \$160/tonne for iron ore and \$4/lb for 27 month forward copper, the impacts would be much larger. In this scenario, total mining exports average US\$3.0 billion per year).

In November 2012, Global Witness critiqued the Aynak contract⁶, offering 95 recommendations to the Ministry of Mines and 39 additional recommendations for the international community. A robust response (which was welcomed and countered by Global Witness) was posted to the MoM website, along with an undertaking to publish and distribute to the public an Annual Report of its activities and Accomplishments during 2012 (in Dari and English)⁷.

⁶ 2012 (November 20) *Copper Bottomed? Bolstering the Aynak contract: Afghanistan's first major mining deal* <http://www.globalwitness.org/library/copper-bottomed-bolstering-aynak-contract-afghanistan%E2%80%99s-first-major-mining-deal>

⁷ 2012 GoIRA MoM, *Response to Global Witness' recent report on Aynak Copper project*, <http://mom.gov.af/en/page/8150>



SECTION B

Infrastructure and extractive industries – Rapid Review

1. General conclusion

No single systematic and definitive review was found during this rapid evidence search. However, there are a plethora of relevant materials and data available which taken collectively provide strong evidence that the extractive industries can be both a source of economic growth, and also be a cause of conflict. The following DFID GSDRC Report provides valuable insights.


2. *Participation in Transparency and accountability initiatives – the case of budgetary processes and extractive industries (DFID GSD RC Report 2012)*

A review of participation and accountability initiatives concluded that while there seems to be broad convergence on what constitutes ‘good’ natural resource governance, there is variation on what are the key aspects that contribute to such outcomes. Many transparency and accountability initiatives tend to focus on process-driven outcomes, such as increasing the participation of civil society organisations (CSOs), promoting disclosure of contracts and/or demanding greater revenue transparency. The assumption is that such outcomes can have a direct impact on greater objectives such as reducing corruption and poverty in resource-rich countries. The initiatives converge to a great extent in their promotion of voice and participation of multiple stakeholder groups (MSGs) including government officials, civil society representatives and members of private companies⁸.

Most of the literature on extractives and natural resource management surveyed focuses on participation in the context of an established (global) mechanism, in particular the Extractive Industries Transparency Initiative (EITI). There is, thus, *very limited discussion on participation in terms of decision-making in conception and design*. The literature also focuses on the participation of civil society and affected local communities. Unlike the studies on budgetary processes, *almost all of the cases profiled in the GSDRC report represent negative examples of participation (largely created from above) being poorly incorporated into initiatives and undermining effectiveness in the achievement of developmental outcomes*.

There was general agreement among respondents that the *EITI process had resulted in enhanced engagement of CSOs in the extractive industries sector*, particularly in relation to increased availability of information and government recognition of CSOs as part of the process. It also found that CSO engagement tended to occur earlier in the EITI process

⁸ 2012, (Oct 25), Haider, H, *Helpdesk Research Report: Participation in transparency and accountability initiatives – the case of budgetary processes and extractive industries*, DFID Governance and Social Development Resource Centre, 20pp, <http://www.gsdrc.org/docs/open/HDQ852.pdf>



(providing input into the design of important EITI mechanisms, selection processes and decisions)⁹, ¹⁰. Challenges and lessons learned were that:

- Consultation cannot be equated with participation;
- It is important to consider power relations; and
- There is a need for coordination/ monitoring.

3. *Extractive Industries Transparency Initiative (EITI) - Lessons Learned*

The Extractive Industries Transparency Initiative (EITI), launched in 2002 and endorsed by the World Bank in 2003, has provided tangible governance improvements in resource-rich conflict-affected countries. It works with multiple stakeholders—a coalition of governments, companies, investors, international organisations, and (CSOs)—to manage a process of publication and verification of company payments and government revenues from oil, gas, and mining.

Experience implementing EITI in five prominent post-conflict countries (Liberia, Sierra Leone, Timor Leste, Iraq, and Afghanistan) has been distilled into five key recommendations and provides useful recommendations and lessons-learned¹¹:

- For each stakeholder, define a specific interest that will motivate that stakeholder to come on board;
- Provide a platform for institutionalised dialogue among stakeholders;
- Use credible and verified data to allow stakeholders to negotiate peacefully;
- Use a pre-emptive approach to avoid giving involved parties the opportunity for wrong-doing – instead of going after rule-breakers after the fact; and
- Use the implemented initiative as a springboard for relevant governance efforts.

A comprehensive EITI handbook for policy makers and stakeholders has recently been published by the World Bank, where processes and outputs are framed in accordance with the “EI Value Chain”, viz “Discovery, Depletion, Development and Diversification”¹².

4. *Strengthened Role for Civil Society - Mining Community Development Agreements*


A recently published World Bank Source Book provides valuable insight and advice into this potentially sustainable and more mutually beneficial approach between (mining) companies, communities, governments, civil society and other stakeholders. The key emphasis is on benefits sharing and equity, accountability and incorporation into business strategy in a globalised and increasingly regulated world. Key features of successful approaches include

⁹ Mainhardt-Gibbs, H. (2010). *Survey of civil society participation in the extractive industries transparency initiative and the role of the World Bank*. Bank Information Centre.

¹⁰ McGee, R., Gaventa, J. et al. (2011). *Synthesis report: Review of impact and effectiveness of transparency and accountability initiatives*, 56pp, Transparency and Accountability Initiative. http://www.transparency-initiative.org/wp-content/uploads/2011/05/synthesis_report_final1.pdf

¹¹ 2011 (January) IFC Smart Lessons, *Extractive Industries Transparency Initiative: Combatting the resource Curse in Fragile and Conflict-Affected Countries*, 5pp, <https://openknowledge.worldbank.org/handle/10986/10458>

¹² 2012 (Nov) World Bank, Ravat, A & Kannan, P. (Eds), *Implementing EITI for Impact: A Handbook for Policy Makers and Stakeholders*, 190pp, (Publication No 73831), <https://openknowledge.worldbank.org/handle/10986/12263>



clarity and transparency, engagement, capacity development, business best practices, and sustainability¹³.

5. *Gender and Artisanal and Small-Scale Mining (ASM)*

As most ASM tends to operate in the informal economy, its contributions to local and national development are typically invisible to most decision-makers, governments and the general public. Nevertheless, its impact can be significant in mining villages, regions and countries. At the household and community level ASM provides rural employment options and results in reduced rural-urban migration. Women's participation in ASM typically decreases with increasing mechanisation, but the numbers involved are significant in many countries, for example¹⁴:

- *Central African Republic*: two-thirds of the women, men and children may directly or indirectly rely on artisanal diamond mining;
- *Liberia*: there are an estimated 50,000-75,000 artisanal diamond miners of whom about 10-20 percent are women, most of whom also pan for gold at diamond sites. This ASM-injected capital may further stimulate local formal and informal enterprises to contribute an additional US\$33.75M to local economies;
- *Mongolia*: over 60,000 artisanal miners (~30% women) of gold, coal, fluor spar, and other minerals are estimated to contribute over US\$811M to the country's GDP; and
- *Uganda*: Almost 200,000 women (45%) and men (55%) are engaged in artisanal mining of gold, tin, coltan, wolfram and a range of industrial minerals. The average miner is estimated to contribute almost 20 times more to GDP than those employed in farming, fishing and forestry.

6. *Sierra Leone*


The mismanagement of the minerals sector has often been blamed for fuelling Sierra Leone's 10-year civil war. Consequently since the end of the war, DFID and a number of other donors have helped support fiscal and institutional reforms, aimed at improving sector governance. Despite the reforms already implemented, Government capacity to manage and regulate the sector remains poor. In particular: (i) the fiscal and regulatory regimes for mining are non-transparent and actual implementation of fiscal and regulatory measures are inconsistent with legislated frameworks; (ii) Civil servants lack capacity to effectively manage field-operations, leading to lack of compliance by Extractive Industry operations with contract agreements, and the legal and fiscal framework; and (iii) The environment is seen as high risk by investors (largely due to political and economic fragility, and non-transparent and unpredictable government actions), resulting in a lack of interest from credible investors. As a result of these governance problems, revenues and economic growth emerging from the mining sector are not commensurate with its underlying potential. This means that mining activities currently have a sub-optimal impact on the country's economic development¹⁵.

7. *Australia*

¹³ 2012 (March) World Bank, *Mining Community Development Agreements: Source Book*, 74pp, <https://openknowledge.worldbank.org/handle/10986/12641>

¹⁴ 2012, World Bank, Eftimie, A et al, *Gender Dimensions of Artisanal and Small-Scale Mining: A Rapid Assessment Toolkit*, 146pp, <https://openknowledge.worldbank.org/handle/10986/2731>

¹⁵ As identified by the World Bank, Mining Sector Technical Assistance programme, 2008, and Extractive Industries Technical Assistance Programme 2011.



The need to focus on improved governance and the reduction of red tape is not confined to developing countries. The Australian State of Victoria Parliamentary Economic Development and Infrastructure Committee (EDIC) reported that regulation of the Victorian exploration, mining and extractives industries has become increasingly difficult to navigate, costly in both time and money and in need of simplification. The Committee Chair, Mr Neale Burgess said: “one of the key recommendations of the report is for the Victorian Government to adopt a ‘one-stop-shop’ approach to regulation of the exploration, mining and extractives industries”¹⁶.

8. *Transparency, the EU & Africa*

In 2009, Africa’s oil, gas and minerals exports were worth roughly five times the value of international aid to the continent (\$246 billion vs \$49 billion). However, instead of their wealth being used as a building block for development, countries rich in natural resources, such as oil, gas, timber or minerals frequently end up blighted by inequality and bad governance. In spite of increasing international recognition of this phenomenon – often referred to as ‘the resource curse’ – governments, multilateral institutions and companies have all failed to do enough to tackle it. One way of ensuring that countries rich in natural resources can benefit from the development of their resource wealth is through the transparency of financial flows from extractive industries. Disclosure of key information can discourage corruption, reduce conflict and improve stability in resource-rich countries – benefits that pay dividends to both investors and citizens alike.

In October 2011, the European Commission proposed that EU-listed and large unlisted extractive and timber companies should publicly disclose their revenue payments to governments worldwide. “Global Witness” welcomed the proposals to revise the existing EU Transparency and Accounting Directives so as to provide citizens of resource-rich but poor countries, investors and civil society with accurate information about the flow of oil, gas, mining and logging revenues to governments, but argued strongly that attempts to gain exemption to the reporting requirement should be resisted by the Commission¹⁷.

¹⁶ 2012 (May 22) Parliament of Victoria, Australia, Economic Development & Infrastructure Committee, Media release: *Mineral Exploration in Victoria at the Crossroads*, http://www.parliament.vic.gov.au/images/stories/committees/edic/greenfields_mineral_exploration/GME_media_release.pdf

¹⁷ 2012 (April 24) Global Witness, *Extractive Sector Transparency: Why the EU needs a strong set of rules*, <http://www.globalwitness.org/library/extractive-sector-transparency-why-eu-needs-strong-set-rules>



SECTION C

Overview – infrastructure in fragile and conflict-affected states

1. DFID – Lessons Learned¹⁸

Infrastructure needs in FCAS reflect, often in an intensified manner, entrenched problems of underinvestment, inadequate maintenance and weak institutional capacity and poor policy frameworks that typify many low income countries. At the same time, infrastructure economic returns in such environments can be high, with power and transport likely to present the best economic outcomes. There is little evidence relating to the priorities for infrastructure with regard to location. One aspect of this is the relative priority of urban versus rural infrastructure, though priorities will depend on the nature of conflict and its causes.

There are generally short-term options for improving access to power to which the private sector can respond, but restoring or establishing large scale networked electricity systems poses formidable problems that require careful long-term planning and institution building.

Road and other transport infrastructure construction and maintenance can provide significant short-term employment opportunities as well as boosting economic opportunities, but sustainability requires institutional strengthening. This is equally true for water infrastructure for agricultural development.

Water and sanitation investment can provide important benefits in improved child health and saving in women's time (as well as providing employment opportunities) though it has little short-term impact on economic growth. Sustainable impact (through small-scale and local initiatives) requires appropriate funding mechanisms and effective community engagement.

Extractive industries are a focus of foreign investment interest even during violent conflict and provide potentially high economic returns – there may be opportunities to use infrastructure driven by the needs of extractive industries to serve broader development purposes.

Private investment in mobile telecommunications has taken place successfully even in very challenging and conflict-affected environments, but the establishment of a basic legal and policy framework is still required.

Social infrastructure (schools and health facilities) is relatively easy to construct in fragile contexts, as is security-sector infrastructure, but the impact is highly dependent on adequate services provided in the new facility, for which institutional strengthening as well as access to the facilities are pre-requisites.

¹⁸ 2012 Jones, S & Howarth, S, *Supporting Infrastructure Development in Fragile and Conflict-Affected States: Learning from Experience*, OPM & Mott MacDonald, 56pp, <http://www.opml.co.uk/sites/opml/files/FCAS%20infrastructure%20final%20report.pdf>



SECTION D

Strengthening the role of civil society and/or user groups in service delivery quality

1. *User involvement and accountability*

Service delivery web-resources are to be found under DFID GSDRC Applied Knowledge Services¹⁹. Recent research argues that community participation in service delivery significantly enhances the responsiveness and accountability of service providers to users. However, communities should not be thought of as homogenous, as power hierarchies exist in all communities, meaning that some groups do not have the ability to voice their views. Client voice is affected by various factors, including social status, education and geographical position. Citizens need to be more involved in service delivery, but getting their voices heard can be constrained by low awareness of rights, government resistance, poor access to information and complex laws and procedures for involvement in local decision-making. It is important to recognise that the poor face particular barriers to participation, for example, illiteracy, lack of time and an inability to travel long distances. The evidence calls for user involvement to move beyond mere consultation to ongoing influence in policy development^{20, 21}.


2. *UN – World Public Sector Report 2010*

The fundamental *raison d'être* of government is the delivery of services to its people. In times of violent conflict, attention and resources shift from production to destruction, and the government's capacity to provide services becomes severely impaired. The effects on the population are devastating. In Bosnia and Herzegovina, for example, fewer than 35 per cent of children were immunized during the fighting in 1994, compared with 95 per cent before hostilities broke out. During Liberia's 15-year civil war, at least 50 per cent of all schools were destroyed, depriving 800,000 children of education. The government's inability to provide security, health care, education, access to clean water and other basic services not only threatens people's welfare; it also erodes the State's credibility and legitimacy. Consequently, restoring effective delivery of public services after violent conflict is necessary not just to ensure the survival of the people, but also to re-establish public trust in government. Improving service delivery can also reduce tensions and grievances among groups struggling to meet basic needs and competing for scarce resources. In this way,

¹⁹ 2013, DFID GSD RC, Applied Knowledge Services, *User involvement and Accountability* (wide range of documents), <http://www.gsdr.org/go/topic-guides/service-delivery/user-involvement-and-accountability>

²⁰ 2010 UNDESA, *Promoting Citizen-Centric Public Service Delivery in Post-Conflict Situations', in Reconstructing Public Administration after Conflict: Challenges, Practices and Lessons Learned - World Public Sector Report 2010*, United Nations Department of Economic and Social Affairs (UNDESA), New York, pp.105-122.

²¹ 2008 *The IDL Group, Accountability and Voice for Service Delivery at the Local Level, A background paper for the UNDP regional training event: Developing Capacities for Accountability and Voice', Sofia, Bulgaria, October 1-2, 2008.*



strengthening government capacity to provide services becomes a means of promoting peace and spearheading economic development²².

3. *Using Citizen Report Cards (CRC) as a Strategic Tool to Improve Service Delivery - Bangalore, India*

In the context of urban growth and poor service delivery, a small group of citizens initiated the process of preparing Citizen Report Cards in 1993. The group gathered systematic feedback on service delivery from a cross section of citizens through a stratified random sample survey. They presented it as the “voice” of residents to service agencies and city government. The findings reflected abysmal service standards; proportions of users, who were clearly satisfied with many services, were in single digit percentages.

Development agencies across India took notice of this process and its potential for impact. The interest generated by the first CRC led to the creation of Public Affairs Centre (PAC) in 1994. PAC went on to replicate this process in other cities while strengthening the civil society network in Bangalore. By the time of the second CRC in 1999, the CRC process evolved from information gathering and dissemination, to one that actively engaged service providers. The second CRC indicated improvements in services and an increase in the incidence of corruption. CRC findings were shared in separate presentations with the heads of four public agencies. PAC used the findings to facilitate a series of public discussions involving city agencies about measures to improve service delivery. This was followed with several initiatives by city agencies to engage civil society to improve service delivery. The third CRC indicates that satisfaction with services has improved from the single digits of 1994 to over 70% for most agencies in 2003.

The experience with this decade-long process, has contributed to significant changes in civil society’s engagement with public agencies in Bangalore, and in the manner by which citizens’ participate to improve public service delivery. The learning from this experience has been replicated and adapted in other sectors in India and in several countries across the world.

The CRC was built on a foundation of “voice” as articulated by citizens through feedback surveys. While “voice” alone is inadequate to improve services, CRCs provided something that was hitherto absent – the basis for systematic civic engagement by city governments and civil society, as well as benchmarks for monitoring performance^{23, 24}.

4. *Rural Roads Maintenance – ADB China*

A performance-based routine rural roads maintenance guide was the outcome of a small-scale technical assistance (SSTA) pilot project linked to the Yunnan Integrated Road Network Development Project. The SSTA pilot project built upon the experience of a previous pilot project on Community-Based Routine Road Maintenance by Women’s Groups, which was financed by the ADB Gender and Development Cooperation Fund. The


²² 2010 UN Department of Economic and Social Affairs, New York, Reconstructing Public Administration after Conflict: Challenges, Practices and Lessons Learned, World Public Sector Report 2010, 162pp,

<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan037819.pdf>

²³ 2013 (& undated decadal range), *Using Citizen Report cards as a Strategic Tool to Improve service Delivery, Bangalore, India*, 2pp,

<http://www.bing.com/search?q=service+delivery+citizen+report+cards+impact&gs=n&form=QBLH&filt=all&pg=service+delivery+citizen+report+cards+impact&sc=0-0&sp=-1&sk=>

²⁴ 2013 (ibid) – Training Course, <http://citizenreportcard.com/>



manual explains how to organise, train, and contract maintenance groups for routine maintenance of rural roads, and served as a basis for the replication of performance-based routine maintenance by maintenance groups under the Yunnan Integrated Road Network Development Project on 650 kilometers of rural roads over a 4-year period²⁵.

5. *Ghana – Accra: Citizen Report Cards for urban services*

The Citizens' Report Card was undertaken by the World Bank with the full support and engagement of the Mayor's office, Accra Metropolitan Authority, Ghana²⁶. The Citizens' Report Card involved a large-scale household survey which was designed to be statistically representative to the sub-metropolitan level. It incorporated Geographic Information Systems (GIS) and Google mapping which significantly aided fielding of the survey and which helps give a spatial dimension to the findings. The survey gathered information from City residents about the coverage and quality of seven core urban services, and also gathered perception-based information on residents' views of the efficiency and effectiveness of City officials, on the accessibility and effectiveness of local political representatives, and on residents' views of their quality of life and standard of living.

What the survey revealed was the complexity of “satisfaction”. Services ranked of highest importance were evidently those for which households had the most need, so toilets and sanitation, gutters and drains were ranked as much more important than basic education or roads. However, satisfaction with education services was high amongst those benefiting from such services. Where service levels were low, then any enhancement had a potentially strong and positive impact.

6. *CoST & Multi-stakeholder Groups (MSGs)*

Anti-corruption initiatives increasingly use multi-stakeholder groups, comprised of representatives from government, private sector, and civil society organisations, to drive implementation at the local level and serve as a force for transparency. In theory, the multi-stakeholder groups idea is quite appealing - each stakeholder has its own interest in the initiative and contributes its unique capacities. In practice, many MSGs have fallen short of expectations. Experiences of MSGs from the Construction Sector Transparency Initiative (CoST), a program that aims to promote transparency in construction through the release of material project information suggest that multi-stakeholder groups are best used as a means of promoting dialogue and building consensus, not as the locus of policy implementation and oversight²⁷.

²⁵ 2012, (December), ADB, Performance-Based Routine Maintenance of Rural Roads by Maintenance Groups: Guide for Communications Bureaus (PRC), 57pp, <http://www.adb.org/publications/performance-based-routine-maintenance-rural-roads-maintenance-groups-guide-communication-bureaus>

²⁶ 2010 World Bank, *City of Accra, Ghana, Consultative Citizen's Report Card*, 146pp, <https://openknowledge.worldbank.org/bitstream/handle/10986/2883/551170ESW0P1131Citizens0Report0Card.pdf?sequence=1>

²⁷ 2010, World Bank, Truex, R & Soreide, T., *Why Multi-stakeholder Groups Succeed and Fail*, Policy Research Working Paper No. 5495, SDN, 20pp, <https://openknowledge.worldbank.org/handle/10986/3977>



SECTION E

Virtuous and vicious circles, willingness to pay and infrastructure services – some examples

1. Water

Issues relating to the willingness of the recipient to pay for services and the perceived impact on cost and quality are similar in the developed and developing world. Some of the most informative and seminal work was initiated by the World Bank Water and Sanitation programme in India over a decade ago, and the key lesson learned was that “*people are willing to pay (for decent services) – but not all politicians were willing to charge*”. A review of willingness to pay studies in India found that although poor people were generally willing to pay for improved access to water and sanitation services this willingness is rarely translated into revised policy. So-called pro-poor pricing strategies appear to be advantageous to the non-poor and are therefore politically difficult to change²⁸. In truth, poor people were often already paying much more to informal intermediaries than they would have had to pay for an economic rate to a formal water supply utility service.


The design of alternative tariff structures (by private sector providers) can serve as a low-cost and effective tool in achieving higher take-up of basic services among poor households while allowing the provider to recover costs. A contingent valuation survey from the Water Supply and Sanitation Project of the Asian Development Bank in Cebu, Philippines showed that tariff structures with a low one-time connection price and price differentiation based on wealth measures can result in a five-fold increase in the take-up of water services by poor households over the base tariff structure. More moderate impacts, however, are found for the take-up of new sanitation and sewage services²⁹. This is often because the link between sanitation, hygiene and clean drinking water is poorly understood.

Water-supply programmes consist of three essential components: technology, people, and institutions. The interface of these facets determines whether a particular scheme is sustainable. A study in Nepal highlighted the differences in maintaining and operating water-supply systems in rural villages and rural market centres, looking at disparities between users' willingness to pay based on data collected through surveys of 205 households and representatives of 12 water-user committees. Due to varying geographical locations and socioeconomic conditions among rural villages and rural market centres, core operation and maintenance problems for drinking water sustainability are very different³⁰.

²⁸ 1999, World Bank, Evans, B.E., Willing to Pay but Unwilling to Charge: Do willingness to Pay Studies Make a Difference? Field Note Report, 8pp, Water and Sanitation Program, New Delhi, India, http://www.wsp.org/sites/wsp.org/files/publications/94200711902_sawilling.pdf

²⁹ 2013 ADB (March), Chun, N., Cost Recoverable Tariffs to Increase Access to Basic Services among Poor Households, ADB Economics Working Paper Series No 342, 29pp, <http://www.adb.org/publications/cost-recoverable-tariffs-increase-access-basic-services-among-poor-households>

³⁰ 2007, Bhandari, B & Grant, M, *User satisfaction and sustainability of drinking water schemes in rural communities of Nepal*, vol. 3, issue 1, 9pp, Sustainability: Science, Practice & Policy, http://sspp.proquest.com/static_content/vol3iss1/0604-017.bhandari.pdf



Weak institutional capacity was the prime obstacle in the provision of drinking water in the rural villages while technicalities such as insufficient water quality and inconvenient water-point locations were the major issues in the rural market centres. Moreover, levels of user satisfaction influence the operation and maintenance of both types of systems.

In Khulna, Bangladesh, contingent valuation methodology (CVM) in a survey of 3,000 households was used to determine willingness to pay (WTP). Mean WTP was large enough to justify the capital expenditure required for the Khulna Water Supply Project. The median WTP was 3.6% of expenditure of the poorest households and the rate set for the connection charge was an important determinant of inclusiveness. Policy simulations showed that poor households are less likely to be connected under a flat rate tariff, and that volumetric tariff is pro-poor. Installment payment of connection charges or inclusion of connection costs in capital investments significantly improved the potential inclusiveness of the proposed project³¹.

The need to offer some form of subsidy to poorer households was also evident from an empirical multiple bounded discrete choice (MBDC) survey model in Chongquing Municipality, China, where domestic water service quality was seriously inadequate, but financial resources were insufficient to improve the service quality. With a survey of 1500 households in five suburban districts, a study showed that a significant increase in water price was economically feasible as long as the poorest households were properly subsidised. The analysis also indicates that the order in which hypothetical prices are presented to the respondents with the MBDC method can systematically affect the answers and should be taken into account when designing such survey instruments³².

2. Energy

Whilst there are many CVM surveys concentrating on WTP in water supply projects, the technique is applicable to most infrastructure service sectors. A CVM survey using a stratified random sample of 2,083 households in rural Madhya Pradesh, India, clearly showed that existing electricity services are very poor and rural households consider good quality uninterrupted power supply as a top development priority³³.


WTP for good quality uninterrupted power supply together with improved customer services and accurate and transparent billing was high enough to justify the investment project. An improved electricity supply would be a new commodity for rural households. The estimated demand functions that use actual prices (revealed preference methods) paid by consumers may underestimate the benefits of improved services, because these prices may reflect the value of poor service to the consumers. Accurately estimated WTP through CV surveys may serve better in representing the benefits of an improved electricity supply.

Policy simulations showed that price responsiveness is very similar amongst different income groups under very high or very low prices. In the middle, if the monthly bill is around Rs. 200, more than half of the poor opt- out from the system, whereas more than 75% of

³¹ 2012 ADB, Guatilake, H & Tachiiri, M., *Willingness to Pay and Inclusive tariff Designs for Improved Water Supply Services in Khulna, Bangladesh*, South Asia Working Paper Series No. 9, 25pp, <http://www.adb.org/sites/default/files/wtp-tariff-designs-water-supply-ban.pdf>

³² 2010, Wang, H et al, *Water Pricing with Household Surveys: A Study of Acceptability and Willingness to Pay in Chongqing, China*, China Economic Review 21: 136-149, <https://openknowledge.worldbank.org/handle/10986/5018>

³³ 2012 ADB, Gunatilake, G., et al, *Willingness to Pay for Good Quality, Uninterrupted Power Supply in Madya Pradesh, India*, South Asia Working Paper series No.13, 34pp, <http://www.adb.org/publications/willingness-pay-good-quality-uninterrupted-power-supply-madhya-pradesh-india>



high income households would continue to enjoy the service. Block tariffs result in a drastic reduction in uptake rates for higher income groups. Given that these households may opt to reduce consumption rather than disconnect their service, block tariffs have potential to induce energy conservation and may serve as an effective demand management tool. Subsidised service can ensure near universal coverage but generate substantially low revenues for the utility companies. Removal of subsidies reduces coverage to about 86% whilst generating sufficient revenues. The role of subsidies is not clear however, as 90% coverage of low income households could be achieved with very low, or no subsidies.

Among the studied service attributes, hours of supply captures the highest WTP and WTP declines significantly with reduced hours of supply. However, quality, customer service, and accuracy of billing together accounts for 56% of the total WTP. Assessment of WTP with different service attribute combinations show that value of other service attributes become relatively more important when supply is less than 24 hours. Simulations show that uptake rates increase substantially when improved hours of supply is supplemented with other service attributes. Development impact of \$1.2 billion worth of physical infrastructure investments on Madhya Pradesh's power distribution network for 24-hour supply can be significantly enhanced if quality, customer service, transparency, and accuracy of billing are also improved simultaneously³⁴.

3. *Low-level versus High-level Equilibrium in Public Utility Services*

Supply allocation problems for utility services, including household water and electricity access and service tend to fall into three categories (a) Low service quality levels for households covered by the regular system; Low coverage levels of households; and (c) Inadequate long-term supply of water and electricity. Estimates suggest that household income increases can be as high as 10% from water access alone. This heterogeneous pattern of utility service provision is common in developing countries, and complicates analyses of public utility service satisfaction and willingness to pay³⁵.

In a "high-level" equilibrium, the quality of utility services is high, consumer willingness to pay for services is high, the utility is well funded and staff well paid in order to induce high quality of performance. In a "low-level" equilibrium the opposite is the case. Which alternative occurs depends on both the quality of utility management, and public perceptions about service quality. If a utility administration has the potential to offer high-quality service, and the public is aware of this, high-quality equilibrium also requires the public's service payments to be high enough to fund the needed pay incentives for the utility staff. When the public lack knowledge about the utility administration quality, the public initial beliefs about the utility administration quality also will influence their willingness to make adequate service payments for a high-quality equilibrium.

³⁴ 2012 ADB, Gunatilake, G., et al, *Valuing Electricity Service Attributes : A Choice Experiment Study in Madhya Pradesh, India*, ADB Economics Working Paper Series No 316, 31pp, <http://www.adb.org/sites/default/files/pub/2012/economics-wp316.pdf>

³⁵ 2011 World Bank, Strand, J., *Low-Level versus High-Level Equilibrium in Public utility Services*, Policy Research Working Paper No 5723, 33pp, <https://openknowledge.worldbank.org/bitstream/handle/10986/3487/WPS5723.pdf?sequence=1>



SECTION F

Infrastructure needs in Asia – background and macro-economic overview

1. *ADB Asian Development Outlook 2013: Asia's Energy Challenge*³⁶

Growth overview

Growth in South Asia is forecast to rise to 5.7% in 2013 and 6.2% in 2014, as India's growth edges up (assuming continued reforms there) to 6.0% and then 6.5%. Pakistan's lack of political consensus prevents it from dealing effectively with its acute economic problems, and the economy will likely again require urgent structural reform and liquidity support to avert balance-of-payments problems. Afghanistan is also at a critical juncture, as it will need to adjust to the withdrawal of international security forces by the end of 2014. South Asia's inflation eased substantially to 8.0% in 2012, aided by relatively stable global commodity prices. Inflation should edge down to 7.4% and then 7.1% over the next 2 years.

Climate change emissions


On its current energy path, Asia's emissions will soon swamp global targets. Without radical changes to the region's energy mix, the consumption of fossil fuels will climb, doubling oil consumption and tripling natural gas consumption. Highly polluting coal consumption could rise by 81%. This would double carbon dioxide (CO₂) emissions to over 20 billion tonnes by 2035. Asia alone would then emit almost all of the 22 billion tonnes that climate change experts see as that year's maximum sustainable CO₂ emissions for the whole world.

Yet, ensuring affordable energy for the poor is a key to inclusive growth, with nearly half of the people in the world without electricity living in Asia. Traditional fuels supply primary energy for 2.8 billion people, who suffer the health risks, inadequate energy services, and environmental damage use of these fuels entails. Universal access to electricity and clean cooking fuel would have high social and economic returns, but getting connections to people without access would require a fivefold increase in annual energy investments globally. Supply security depends on tapping new energy sources and technology. Environmental sustainability requires aggressive exploration of all options to curb burgeoning energy demand. The ADB has published a recent and comprehensive set of guidelines for climate proofing investment in the energy sector³⁷. The focus is at the project-level, with useful project-cycle stages decision-support flow-trees and activities.

Distorting Subsidies

³⁶ 2013 ADB, *Asian Development Outlook 2013, Asia's Energy Challenge*, 323pp (*Afghanistan Country Report p178-180*), <http://www.adb.org/publications/asian-development-outlook-2013-asias-energy-challenge>

³⁷ 2013 ADB (May), *Guidelines for Climate Proofing Investment in the Energy Sector*, 109pp, <http://www.adb.org/documents/guidelines-climate-proofing-investment-energy-sector>



Consumer subsidies artificially reduce the price of energy, diverting it from more efficient uses and disproportionately benefiting the non-poor. Subsidies impose a tremendous burden on public budgets, exceeding 2% of GDP in India, Indonesia, and Viet Nam, and 4% in Bangladesh and Pakistan. If countries around the world eliminated wasteful subsidies, global CO₂ emissions would be an estimated 2.6 billion tonnes lower in 2035. However, those who benefit from wasteful subsidies invariably resist removing them, despite the large economy-wide gains.

Turkmenistan is becoming an important energy hub. Its gas reserves are the second largest in the Commonwealth of Independent States and the fourth largest in the world, conservatively estimated by BP in 2011 at 24.3 trillion cubic metres (m³), or 11.7% of the world total. The Turkmen government has ambitious plans to develop the country's abundant oil and gas resources, and leading oil and gas companies have concluded long-term agreements. Targets set by the NPSED see gas production rising fourfold to 230 billion m³ per year by 2030, 70% of it exported. Oil production is planned to rise six-fold to 66.6 million tons in the same period. During 2012–2016, annual average gas output is expected to rise to 90 billion m³, 50% above current output. The 7,000km pipeline across Uzbekistan and Kazakhstan to the PRC, built with PRC assistance in 2009, has annual capacity of 30 billion m³, which will be expanded to 65 billion m³ by 2020, raising Turkmen gas exports to a record high. According to government plans, the existing pipelines to the PRC, the Russian Federation, and Iran will be augmented with additional pipelines, including the Turkmenistan–Afghanistan–Pakistan–India natural gas pipeline and the Trans-Caspian gas pipeline across the Caspian Sea to Azerbaijan and on to Europe.

Box 1 Turkmenistan and Global Energy Security

ADB 2013, Asian Development Outlook


ADB Energy Efficiency – Controlling Demand – Industry & Buildings

Energy efficiency improvements in industry and buildings provide ADB with a good opportunity to promote demand-side energy efficiency. So far, ADB's support for improving energy efficiency has had a supply-side orientation - accounting for about 40% of total clean energy interventions during 2003–2010. Going forward, ADB is expected to move toward a more balanced and integrated portfolio of supply and demand-side energy efficiency improvement interventions, as envisaged under ADB's long-term Strategy 2020³⁸.

Lessons Learned – Electricity (India)

An analysis of several interconnected resource allocation problems from under-pricing of electricity used by farmers for groundwater extraction in India (a common practice to curry favour for political votes) shows that groundwater extraction is inefficiently high even without electricity under-pricing. Moreover, part of the electric power supply intended for farmers is often diverted to other unauthorised uses (notably illicit consumption). Unless non-price electricity rationing imposes severe constraints on demand, the range of resource allocation problems includes insufficient incentives to provide high-level service by the power utility, insufficient incentives for farmers to install and operate efficient equipment, and losses due to political "rent seeking" activities to influence water allocations. Unexpectedly, the analysis also shows that diversion of electricity to illicit uses can increase overall economic efficiency when this leads to less electricity use by farmers, thus somewhat ameliorating the problem

³⁸ 2012 ADB, Review of Energy Efficiency Interventions, 165pp, <http://www.adb.org/sites/default/files/Energy-Efficiency-Book.pdf>



of excessive groundwater extraction as well as the inefficiencies related to under-pricing of electricity. Systemic reforms for overcoming these problems may face severe political obstacles³⁹.

ADB and Infrastructure in India

ADB has supported almost 160 projects across eight infrastructure sectors in over 20 states of the country. During the course of project implementation, ADB has encountered a number of challenges which have been addressed and resolved over time through consensus-based interventions and practices. A compendium of such interventions and best practices conceived through joint portfolio reviews and consultations between ADB, GOI, and executing agencies has been published. It is a valuable source of information and guidance for practitioners in infrastructure development and service provision⁴⁰.

2. *Water Challenges in Asia - ADB's Water Policy and Plan*

ADB's Water for All policy, adopted in 2001⁴¹, recognises the Asia and Pacific region's need to formulate and implement integrated, cross-sectoral approaches to water management. The policy seeks to promote water as a socially vital economic good that needs increasingly careful management to sustain inclusive and equitable economic growth and reduce poverty and to advocate a participatory approach in meeting the challenges of water conservation and protection. It further makes a clear distinction between water as a service that must be delivered efficiently and as a resource that must be managed sustainably. The policy has the following principal elements:

- Promote a national focus on water sector reform
- Foster the integrated management of water resources
- Improve and expand the delivery of water services
- Foster the conservation of water and increase system efficiencies
- Promote regional cooperation and increase the mutually beneficial use of shared water resources within and between countries
- Facilitate the exchange of water sector information and experience
- Improve governance and capacity building

These elements guide all ADB lending, policy dialogue, and technical assistance in the water sector.


Implementation (2001-2010)

To help catalyse the policy's implementation, ADB set up the Cooperation Fund for the Water Sector in 2001, a multi-donor umbrella facility designed to promote effective water management policies and practices in the region. The fund financed a coherent program of activities designed to add value and increase synergy in ADB's water sector operations through better awareness, knowledge management, capacity building to support reforms, pilot demonstration, water partnerships, regional cooperation, monitoring, and coordination. ADB's investments in water from 2001 cut across subsectors such as urban and rural water

³⁹ 2012 World Bank, Strand, Jon., *Allocative Inefficiencies Resulting from Subsidies to Agricultural Electricity Use : An Illustrative Model*, 19pp, <https://openknowledge.worldbank.org/handle/10986/3240>

⁴⁰ 2011 (Oct) ADB, *Facilitating Infrastructure Development in India: ADB's Experience and Best Practices in Project Implementation*, 165pp, <http://www.adb.org/publications/facilitating-infrastructure-development-india-adbs-experience-and-best-practices-project>

⁴¹ 2001 ADB, Water Policy, <http://www.adb.org/sectors/water/adb-water-policy-plan>



supply and sanitation, wastewater management, water resources development and management, flood and drought management, irrigation and drainage, wetlands and watershed protection, water quality enhancement, and hydropower generation. These investment projects targeted installation and/or rehabilitation of infrastructures as well as implementation of required reforms and capacity development interventions.

Grant resources from the fund focused on better understanding of sector issues, advancement of reform measures, and development of capacities within ADB and in its developing member countries. It also helped to establish regional networks and partnerships for knowledge sharing, capacity development, and leadership. The fund was closed in December 2010.

The Water Financing Program launched in March 2006 served as a vehicle to continue catalysing the implementation of the policy. The first phase was completed during the period 2006-2010 and the second phase will be implemented from 2011 to 2020 guided by the Water Operational Plan 2011-2020. Its implementation has been supported by the Water Financing Partnership Facility.

ADB Asian Water Development Outlook 2013

This second edition of the Asian Water Development Outlook (AWDO) provides the first quantitative and comprehensive view of water security in the countries of Asia and the Pacific. By focusing on critical water issues, AWDO 2013 provides finance and planning leaders with recommendations on policy actions to improve water governance and guidance on investments to increase their country's water security⁴². Key Messages include:

- Make the best use of already developed water resources by investing in and incentivizing "reduce, reuse, recycle" systems;
- Unlock the performance of water utilities through corporatization;
- Invest in better sanitation to boost health, productivity, and the economy;
- Mobilize rural communities for equitable and just access to water and sanitation;
- Embrace the challenge of the water–food–energy nexus;
- Manage groundwater as a valuable and limited resource;
- Revitalize irrigation institutions for transformation of irrigation services;
- Make integrated water resources management a priority;
- Mobilize additional resources to clean up rivers;
- Create insurance mechanisms to minimize reliance on disaster relief; and
- New problems demand institutions crafted for current challenges.

Water Security in Five Dimensions

AWDO measures water security in five key dimensions because a single focus on any one of these is insufficient to guide decisions or assess outcomes in the water sector. The AWDO vision of water security is designed to represent the multiple dimensions of water in people's lives and livelihoods, with poverty reduction and governance as crosscutting perspectives in each of the five dimensions.

- Household Water Security
- Economic Water Security
- Urban Water Security

⁴² 2013 ADB, *Asian Water Development Outlook 2013, Measuring Water Security in Asia and the Pacific*, 128pp, <http://www.adb.org/publications/asian-water-development-outlook-2013>

- Environmental Water Security
- Resilience to Water-Related Disasters

Water governance plays a central role in boosting water security in each of the five key dimensions, and also in managing the trade-offs between the dimensions. It is an inter-sectoral process that requires leaders to break through silos, to span boundaries, and to create a positive nexus among water, food, and energy security. This process is known as integrated water resources management (IWRM), and most countries in the region have already adopted policies and legislation to support its implementation.

There are, however, no one-size-fits-all solutions across the region. Rather, the appropriate solutions in each country will reflect the country's resource endowment, economic development, culture, and chosen development path. As the national water security assessments in AWDO 2013 demonstrate, there is an urgent need to strengthen the capacity for integrated planning and management nationally as well as in river basins and cities.

Flood Risk Management

Over recent decades the concept of flood risk management has been cultivated across the globe. Implementation however remains stubbornly difficult to achieve. In part this reflects the perception that a risk management paradigm is more complex than a more traditional standard-based approach as it involves "whole systems" and "whole life" thinking; yet this is its main strength and a prerequisite for more integrated and informed decision making. A collaborative effort between the World Wide Fund for Nature (WWF), the General Institute of Water Resources and Hydropower Planning and Design (GIWP), Ministry of Water Resources, People's Republic of China, UNESCO, the Asian Development Bank (ADB), and a number of leading international experts from the United Kingdom, South Africa, Australia, and the United States has led to the production of guidance and advice on strategic flood risk management⁴³. The guidance is one in a series of six books, which together consider three fundamental water resources management issues: river basin planning (Pegram et al., 2013)⁴⁴, basin water allocation (Speed et al., 2013)⁴⁵, and strategic flood risk management.

The book focuses on strategic flood risk management policy and practice, and provides an overview of:

- the historical developments and emerging trends in flood management;
- the purpose and characteristics of modern flood risk management;
- the goals, objectives and outcomes sought;
- the ongoing challenges in developing and implementing flood risk management in practice together with some of the common pitfalls and misconceptions; and
- a summary of some specific tools and techniques and how they support good decision making.


Water – multi-country

⁴³ 2013 ADB et al, *Flood Risk Management: A Strategic Approach*, 206pp,

<http://www.adb.org/publications/flood-risk-management-strategic-approach>

⁴⁴ 2013 ADB et al, *River Basin Planning Principles: Procedures and Approaches for Strategic Basin Planning*, 184pp <http://www.adb.org/sites/default/files/pub/2013/river-basin-planning.pdf>

⁴⁵ 2013 ADB et al, *Basin Water Allocation Planning: Principles, Procedures and Approaches for Basin Allocation Planning*, 144pp, <http://www.adb.org/publications/basin-water-allocation-planning>



Water is increasingly becoming a limiting factor for sustainable economic growth and development in many countries. Its allocation has significant impacts on overall economic efficiency, particularly with growing physical scarcity in certain regions. Greater water supply variability further increases vulnerability in affected regions. Water also has become a strategic resource involving conflicts among those who may be affected differently by various policies. Drawing on country based studies in Morocco, South Africa, Turkey, and Mexico, a World Bank analysis reveals difficult tradeoffs among various policy objectives, including priorities placed on different sectors, regional advantages, and general economic efficiency gains versus broader social impacts. A comparison of policy impacts demonstrates the usefulness of using a framework in information that policy makers can use to rank the interventions according to the emphasis placed on different objectives. It is also possible to compare approaches used in other studies that apply computable general equilibrium models in various contexts of water, environment and agriculture⁴⁶.

3. *A decade of support to Transport – The World Bank (2002-2011 Evaluation)*⁴⁷


The services provided by investments in road networks, railways and transit systems, and ports for trade by air and water are important contributors to poverty alleviation and economic growth. Sustained transport investments can support poverty reduction directly, in terms of improving access and thus economic opportunity targeted to the rural poor, and through facilitating broad-based growth. But the impact of infrastructure investments and the services that arise from them can be undermined by poor operations and maintenance (*The term transport is intended to mean transport infrastructure and services, unless otherwise specified*).

Over the past decade, the World Bank, International Finance Corporation (IFC), and Multilateral Investment Guarantee Agency (MIGA) have committed about \$50 billion for operations or guarantees in the transport sector, amounting to 12% of the World Bank Group's total commitments and guarantee volumes. The performance of World Bank transport operations at project closure has been high - almost 89% are rated moderately satisfactory or better. Yet inadequate operations and maintenance - raised as an issue more than 20 years ago - has remained a concern through to the present. The comprehensive evaluation cited above covers World Bank, IFC, and MIGA transport operations approved over fiscal years 2002-2011.

Nearly a third of World Bank operations identified lack of maintenance funding as a risk at project appraisal. A large share (43%) of the projects that identified maintenance and funding shortfalls as risks had sustaining transport as an objective, compared to only 15% of projects that did not flag these risks. In addition, the projects that identified maintenance and funding shortfalls as risks were more likely to include financial arrangements as a measure to help sustain transport, in their project components. The share of projects that identified maintenance risks at appraisal, however, has been declining over time, from 39% in the first half of the decade to 24% in the latter half. In general, projects are rarely designed to minimize maintenance needs. Intercity highways and rural roads projects, which usually depend on constrained public resources for maintenance, are not based on evaluation of cost effective rehabilitation and maintenance solutions for entire road networks or sub-

⁴⁶ 2012 World Bank, Dinar, A., *Economy-Wide Implications of Direct and Indirect Policy Interventions in the Water Sector : Lessons from Recent Work and Future Research Needs*, Policy Research Working Paper No 6068, 71pp , <https://openknowledge.worldbank.org/handle/10986/9351>

⁴⁷ 2013 (March) World Bank, *Improving Institutional Capability and Financial Viability to Sustain Transport: An Evaluation of World Bank Group Support Since 2002*, 172pp, IEG, <https://openknowledge.worldbank.org/handle/10986/13823>



networks. It was found that a clear accountability framework and incentive structure for operations and maintenance are critical for sustained transport, and that a broad-based approach that aligns funding sources helped allocate maintenance budgets.

World Bank investments linked to countries that had public expenditure reviews (PERs), especially with explicit mention of transport maintenance, were more likely to realize sustained transport outcomes. However, more than half of the PERs reviewed failed to highlight the transport maintenance funding issue.

Road Safety

Nearly 1.3 million people are killed and as many as 50 million are injured or disabled each year due to road crashes. Globally, road crashes will become the fifth leading cause of death in all age groups by 2030. The ADB has established the Sustainable Transport Initiative to align its transport operations with ADB's long-term strategic framework, Strategy 2020. In July 2010, ADB approved the Sustainable Transport Initiative Operational Plan, which identified road safety as one of the priority areas to be mainstreamed and scaled up in ADB's transport operations. To guide its work on mainstreaming road safety, ADB developed the Road Safety Action Plan. It provides the basis for ADB to play a more proactive role to support developing countries in Asia and the Pacific in their efforts to achieve sustainable, effective, and cost-effective improvements in road safety⁴⁸.

Afghanistan – HIV & Human Trafficking (A story within a story)

In 2007, ADB funded the rehabilitation of two roads running through the remotest areas of Afghanistan - the 140-kilometer Mazar-e-Sharif - Dara-i-Suf stretch and the 99-kilometer link between Bamiyan–Yakawlang. To mitigate the risks that come with roads – such as the spread of sexually transmitted infections - ADB developed a US\$550,000 awareness campaign aimed at preventing HIV/AIDS and sexually transmitted infections, as well as human trafficking in Afghanistan. The program operated along the North-South Corridor of the country from December 2010 to July 2011.

The project had to overcome many obstacles, such as the lack of accurate figures on HIV-positive cases and low literacy rates, which has hindered HIV/AIDS awareness and prevention. But despite these obstacles, the project was successful in reaching over 9,500 people during its 8 months of operation. The health centres that were set up near construction sites served over 3,000 visitors by providing counseling, diagnosis, and treatment.


A Story Within a Story also relates the experience of the people served by the project. After attending a health education session, a truck driver said that he learned for the first time that using a condom is not against Islam and can be used as protection against sexually transmitted infections. “I am going to tell other workers and drivers,” he said⁴⁹.

ADB Gender Tool Kit – Transport

The purpose of the tool kit is to assist staff and consultants of the Asian Development Bank (ADB) and government partner executing agencies to conceptualise and design gender-

⁴⁸ 2012 (April) ADB, *Road Safety Action Plan: An overview*, 8pp, <http://www.adb.org/publications/road-safety-action-plan-overview>

⁴⁹ 2012, ADB, *A Story Within a Story: ADB Works to Prevent Sexually Transmitted Infections and Human Trafficking in Afghanistan*, 12pp, <http://www.adb.org/publications/story-within-story-adb-works-to-prevent-sexually-transmitted-infections-in-afghanistan>



responsive projects in the transport sector. ADB's Policy on Gender and Development adapts gender mainstreaming across all sectors to promote and support gender equality and women's empowerment.

The tool kit provides guidance for transport sector specialists and gender specialists by drawing attention to the gender dimensions of transport, and how to mainstream gender equality issues into transport project design, implementation, and policy engagement. It guides users in designing project outputs, activities, inputs, indicators, and targets to respond to gender issues in transport sector operations. The tool kit is not meant to be prescriptive; rather, it offers a menu of entry points that project teams can select⁵⁰.

⁵⁰ 2013, ADB, *Gender Tool Kit: Transport – Maximising the Benefits of Improved Mobility for All*, 95pp, <http://www.adb.org/documents/gender-tool-kit-transport-maximizing-benefits-improved-mobility-all>