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World Infrastructure and Development

Infrastructure and Poverty Briefing for the World Bank Infrastructure Forum, May 2-11, 2001

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World Infrastructure and Development

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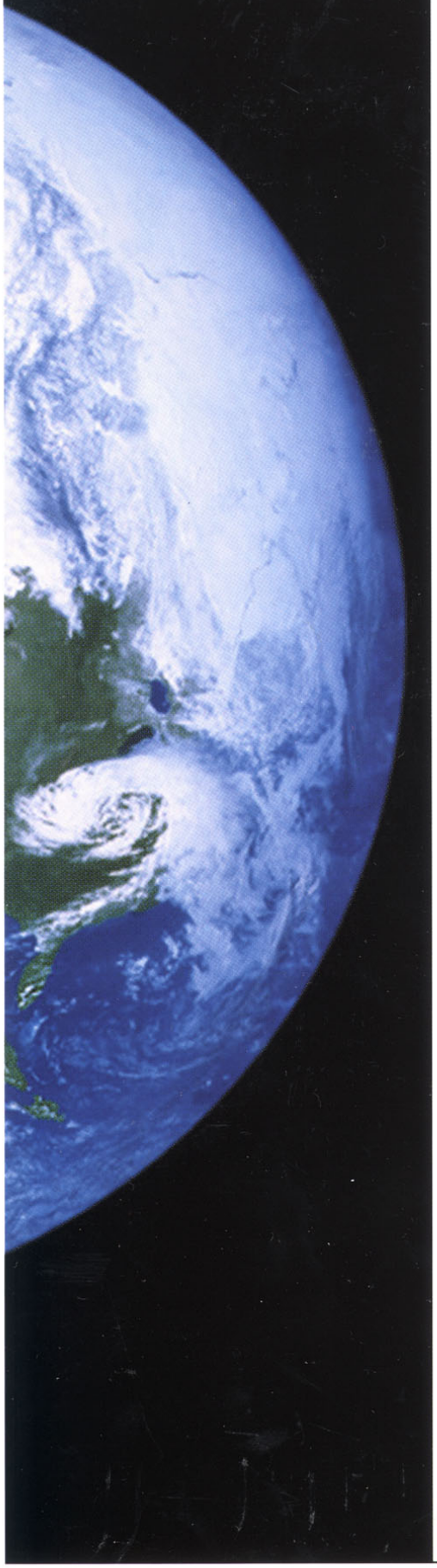

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In addition to the panel members below, the World Markets Research Centre would like to thank the Directorate General for Energy and Transport, European Commission, Brussels

Dr Johan Bastin

Business Group Director, European Bank for Reconstruction and Development (EBRD)

Dr Johan Bastin is a Business Group Director at the European Bank for Reconstruction and Development (EBRD), heading the Infrastructure Group ("the Group"), which includes the Energy Efficiency, Municipal and Environmental Infrastructure, Power and Energy and Transport teams. The Group is responsible for the development, appraisal and structuring of public and private infrastructure financing in Central and Eastern Europe, the Baltic States and the Commonwealth of Independent States. Dr Bastin joined the EBRD in 1993 and, before assuming his current position in June 1999, was Director of the Municipal and Environmental Infrastructure team, dealing with investment financing of of municipal services and infrastructure, including water and sewerage services, solid waste collection and disposal, urban transport and district heating. Since 1983, Dr Bastin has worked in infrastructure financing in emerging markets and transition economies. He holds degrees in urban planning; business administration; and public administration and finance. ■

Margaret Catley-Carlson

Chair, Global Water Partnership (GWP)

Margaret Catley-Carlson is Chair of the Global Water Partnership (GWP). She chairs Group Suez Lyonnaise des Eaux: Water Resource Management Advisory Committee, is a Commissioner of the World Commission for Water in the 21st Century and serves on the Canadian Committee of the International Ocean Institute. Ms Catley-Carlson is a board member and advisor to numerous other international and national public and private groups in the fields of agricultural development, health and population and finance and development. She has an international career spanning 35 years, gaining experience in a variety of governance, public policy, regulatory, management, economic, health and development issues. She has worked with organisations, applying science and knowledge to the better management of national and international problems in freshwater governance, health, agriculture, information management, environmental protection, international development and development finance. ■

Jean-Pierre Charpentier

Senior Energy Specialist and Infrastructure Forum 2001 Manager, Water & Energy Department, Private Sector and Infrastructure Vice Presidency, The World Bank

Jean-Pierre Charpentier has been with The World Bank Group since 1987 and is currently Senior Energy Specialist within the Energy and Water Unit of its Central Infrastructure Department. His main fields of activity focus on the development of regional energy markets and power sector restructuring. Prior to joining The World Bank, Mr Charpentier worked for the International Atomic Energy Agency (IAEA) in Vienna since 1977, where he was responsible for analysing possible peaceful uses of nuclear energy for the organisation's member states. Up to this time, his activities were essentially in France, where he worked for the Atomic Energy Commission and the Ministry of Industry, where he was engaged as Adviser for Nuclear Issues until 1977. He was also Assistant Professor in Mathematics Economics at the University of Paris. Mr Charpentier has a double academic background in electrical engineering and economics. ■

Luis Dodero

Vice President and General Counsel, Multilateral Investment Guarantee Agency (MIGA), The World Bank Group

Luis Dodero joined The World Bank Group's Multilateral Investment Guarantee Agency (MIGA) in October 1989 as Vice President and General Counsel. He is an expert on investment and export credit insurance, claims negotiation, settlement and recovery and international commercial law. In 1971, Mr Dodero joined Compañia Española de Seguros de Crédito a la Exportación, SA (CESCE), where he held the position of Deputy General Manager and General Counsel. Prior to joining CESCE, Mr Dodero was the Legal Advisor to the Claims Department of Compañia Española de Seguros de Crédito y Caución, which, prior to CESCE's formation, was the credit insurance agency of Spain. He practised for several years in his own law firm, and acted as the local Spanish associate of major English law firms. He is a member of the Spanish Court of Arbitration, the Madrid Bar Association and the International Bar Association, and is a frequent lecturer before international, national, private and legal venues. Among his many writings, he has co-authored the *Guidelines for the Protection of Foreign Investment*. Mr Dodero received his LL.M Degree from Madrid University, after which he studied International Commercial Law, obtaining diplomas from various institutions in England, Spain and the US. He has also completed the Harvard Executive Development Program for managers of The World Bank. ■

Declan J Duff

Director, Infrastructure Department, International Finance Corporation (IFC)

Declan Duff is Director of the International Finance Corporation's (IFC's) Infrastructure Department, a group providing advice to, and investing in, a range of infrastructure projects (including roads, railways, ports, airports, pipelines and the like), and utilities (including water, waste treatment, gas distribution and logistics systems). IFC is able to draw on a broad range of specialist skills to achieve the successful financing of infrastructure projects. Mr. Duff and his department have developed a reputation in the market for bringing challenging financing to closure. In the past 10 years IFC has financed infrastructure projects worth US$40 billion. Mr. Duff is on the board of a number of infrastructure companies and funds. Previously Mr. Duff was Vice President and head of business development for Europe, Africa and the Middle East with Mellon Bank. ■

Geoff Haley

Chairman, International Project Finance Association (IPFA)

Geoff Haley is Chairman of the International Project Finance Association (IPFA), with extensive experience of advising on major projects in the construction and private finance sectors. He has also managed legal services for many projects worldwide. Mr Haley was admitted as a solicitor in 1971 and holds a Masters Degree in Business Administration from Henley Management College. Prior to practising with SJ Berwin in 1989, he was Legal Adviser at Peterborough Development Corporation and, later, Legal Advisor to Costain UK, General Manager of Costain Ventures Ltd and Deputy Group Legal Advisor to Costain Group plc. He was a Partner for two years at the US firm Arnold & Porter and joined KLegal as Consultant in September 2000. He has specialist expertise in large and complex projects in the fields of energy, waste management, water treatment, transportation, private power generation, waste to energy schemes, urban renewal, property, healthcare and education. ■

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Chief of Staff, Office of the President, The World Bank Group

Frannie A Léautier is the Chief of Staff for the President of The World Bank Group. Prior to this, she was the Director for The World Bank's Infrastructure Group and served as Sector Director for Infrastructure in South Asia from 1997 to 2000. Ms Léautier joined The World Bank Group in 1992 and is recognised as a leading expert in infrastructure strategy formulation in developing countries. Prior to joining The World Bank, she taught at the Center for Construction Research and Education, and the Department of Urban Planning at the Massachusetts Institute of Technology (MIT). She is a recipient of a number of excellence awards, is Associate Editor for the *Journal of Infrastructure Systems* and a member of a number of international committees on infrastructure development. She has completed the Harvard Executive Development Program and received her MSc in Transportation, and her PhD in Infrastructure Systems, from MIT. ■

Kyu Sik Lee

Consultant, Urban Development

Kyu Sik Lee recently retired from The World Bank, after nearly 25 years of research, policy, operational and evaluation work in the urban development and infrastructure sectors. He conducted major impact evaluation studies of municipal and regional development projects and major research and policy work on the impacts of infrastructure deficiencies on productivity; and on employment (industrial) location and spatial policies. He has published numerous books, journal articles and research reports. Prior to joining The World Bank in 1975, Mr Lee taught Economics at New York University and Wayne State University and was on the staff of the Conference Board, New York, and the Korea Development Institute, Seoul. He holds a PhD in Economics from the University of Wisconsin at Madison. ■

Dr Anthony Milburn

Executive Director, International Water Association (IWA)

Dr Anthony Milburn is currently the Executive Director of International Water Association (IWA), formed from the merger of the International Water Services Association (IWSA) and International Association on Water Quality (IAWQ) in 1999. Dr Milburn was Executive Director of IAWQ and the architect and leader of the merger process that formed IWA. Originally a civil engineer by profession, he holds bachelor, master and doctoral degrees in Engineering and a Diploma in Company Direction. He was a manager with the UK National Water Council Training Division and produced a number of UK national training schemes for the water and wastewater industry. He was consultant to The World Bank on the manpower aspects of the Brazilian national plan for water and sanitation and, as adviser to the Government of Indonesia, produced a national manpower development programme for the water supply sector. Dr Milburn is a fellow of the International Water Academy and the European Academy of Science and Arts, a Governor of the World Water Council, fellow of the UK Institution of Civil Engineers and a fellow of the UK Chartered Institute of Water and Environmental Management. ■

Dr Klaus Rave

President, European Wind Energy Association (EWEA)

Dr Klaus Rave has served as President of the European Wind Energy Association (EWEA) since 1999, and as Managing Director of Investitionsbank Schleswig-Holstein since 1995. From 1988 to 1995, he was Head of Division in the Ministry of Finance and Energy, State of Schleswig-Holstein, responsible for energy affairs, and from 1981 to 1988, he was General Secretary of the Social Democratic Party, Schleswig-Holstein. Dr Rave was a Lecturer in German and International Law at Surrey University from 1978 to 1981, and studied legal practice and his PhD at the Institute of International Law from 1974 to 1978. He was a student of Law at Christian-Albrechts-Universität, Kiel and Trinity College, Dublin, from 1968 to 1974. ■

Professor J Rodney Turner

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J Rodney Turner is Chairman of the International Project Management Association (IPMA), Professor of Project Management at Erasmus University, Rotterdam and Operations Director for the European Construction Institute, Benelux Region. He is also a member of the associate faculty at Henley Management College and a visiting fellow at the University of Technology, Sydney. Professor Turner is a director of EuroProjex, the European Centre for Project Excellence. He worked for six years for ICI as a mechanical engineer and project manager on design, construction and maintenance projects, before joining Coopers & Lybrand as a management consultant. He worked for Henley Management College for eight years and joined Erasmus University in 1997. Professor Turner is the author of four books on project management, he edits *The International Journal of Project Management* and has written articles for journals, conferences and magazines. He lectures on and teaches project management worldwide. Professor Turner studied engineering at Auckland University and obtained his doctorate at Oxford University. ■


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a report by

John Flora *and* **Jamal Saghir**

Director, Transport and Urban Development & Disaster Management, and Director, Energy and Water, The World Bank

John Flora is Director of the transport and urban development division in The World Bank's vice-presidency for finance, private sector and infrastructure. He has over 35 years of experience in urban and transport planning, design and operations. He has been with The World Bank for 18 years, most recently focusing on transport policy, private sector involvement in provision of infrastructure and transport services, urban transport pricing, financing, operations and urban development.

Jamal Saghir is director for energy and water in The World Bank Group's Private Sector Development and Infrastructure Vice Presidency, a position which also includes management of the network functions for the energy and water sectors Bank-wide. He joined The World Bank in 1990 as a financial officer in the Private Sector Financial Operations Group of the Co-financing and Financial Advisory Services.

As The World Bank Group and many of its partners have been refining and scaling up their effort in the battle for poverty reduction, access to infrastructure services has increasingly been seen as central to all dimensions of that endeavour. The 'infrastructure-poor' are increasing, in spite of the large investment flows – especially private flows – of the past decade:

- 1.2 billion are without access to safe water;
- two billion lack sanitation;
- two to three billion are without modern energy services;
- 40% to 50% of residents of large cities in the developing world live in slums or squatter settlements without basic services;
- the digital divide is wide; and
- there is a lack of access to employment, healthcare and education services.

Today, no one can deny the impact of increased access to infrastructure services on expanding economic opportunities, on improving health, education, living conditions and personal security, and on increasing inclusion and empowerment of individuals and communities. In fact, the poor themselves perceive access to infrastructure as one of their priority requirements towards sound and sustainable development.

The challenge of poverty alleviation remains immense, making the infrastructure agenda anything but complete. While the poor are requesting increased access to infrastructure services, and are willing to pay for them, and while large investment flows – public and private – have been observed over the past decade, the poor still number billions and insufficient access to infrastructure remains of dreadful consequence to them.

In this context, it is essential that infrastructure professionals gain a solid understanding of the nature of the problems, a successful enabling environment for development be maintained and that all stakeholders be involved in the identification of the problems and the design of the right solution. The latter requires smart partnerships including the private sector, local and national governments, communities, non-governmental organisations and other development partners. It is in an attempt to facilitate a better understanding of these challenges and possible synergistic approaches that the Infrastructure Forum ("the Forum") was created. The World Bank Group is launching this Forum with the aim of providing a unique opportunity to discuss and learn more about the strategic importance of infrastructure in improving people's lives and the problems associated with poverty. The Forum is aimed at emphasising cross-sectoral issues across infrastructure activities – notably transport, energy, water and urban development – by offering the opportunity for a variety of infrastructure professionals from all over the world to meet and share their experiences and knowledge. The Forum is to focus on three main themes:

- **Infrastructure, poverty and human development:** what is the role of infrastructure in poverty reduction strategies? This includes the role of infrastructure in national poverty strategies through urban and rural development, as well as the role of the private sector in poverty reduction.

- **Infrastructure and Convergence:** how to build synergies across traditional sectors and through private partnerships – including, for example, private sector experience with cross-sectoral project development and implementation, as well as communities' experiences with holistic infrastructure approaches.

- **Infrastructure and Innovation:** the role that leading innovations can play in business practices and exchange of information – including innovations in infrastructure technology, delivery mechanisms and the impact of advances in electronic technology on business practices and the exchange of information.

As a further contribution to the sharing and thinking that the Forum aims at promoting, this business briefing offers a series of articles and thoughts from infrastructure sector players that we hope will prove complementary to the Forum, both of which should be invaluable tools in our committed work in making access to infrastructure services a success story. ■

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Connecting People to Resources – What Role for the Private Sector?

a report by
Peter Woicke

Managing Director, The World Bank Group

Peter Woicke is a Managing Director of The World Bank Group, guiding and ensuring coherence of work in the private sector across the entire Group. In addition to this, Mr Woicke became Executive Vice President of the International Finance Corporation (IFC) on 1 January 1999. Prior to joining IFC, he held numerous positions, over nearly 30 years, with JP Morgan, most recently, as Chairman of JP Morgan Securities Asia. He had a diverse range of responsibilities, ranging from heading the banking division of a Morgan affiliate in Beirut to leading their global oil and gas group. For two years, Mr Woicke was responsible for the company's information technology group of 6,000 staff.

There are three main reasons why infrastructure needs to be discussed:

1. Despite the centrality of infrastructure for economic and social life, the role of infrastructure in development finds itself in need of defence. It is no longer enough to remain comfortable with general assumptions. An effort must be made to demonstrate the actual linkages and to show progress towards achieving economic and social results through infrastructure.

2. Trends in innovation and technology that have shaped the conduct of numerous activities in daily lives, from the nature of travel and communications to the simple act of 'going to the market', have enormous implications for infrastructure, only some of which have begun to be experienced and explored.

3. Key drivers of innovation and change – entrepreneurs and leaders of companies seeking to match the opportunity offered by technology with the demand for services and service improvements – are now, more than ever, seeking to expand their markets while, at the same time, there is an explosion in the demand for services that until now were being provided through what is called the 'traditional approach to infrastructure provision'.

Role of Infrastructure

The role of infrastructure in development is being questioned for two main reasons:

- widening inequalities; and
- the failure of traditional approaches to infrastructure provision.

Widening Inequalities

Widening inequalities put to question the central assumption of the importance of growth for development. For example, during the 1990s, Europe was reunited after more than 50 years, but, 10 years later, the job of reconstruction has barely begun.

In eastern Europe in the 1990s, 23 million formerly middle-class citizens of the then Union of Soviet Socialist Republics, or its satellites, were reduced to living on the equivalent of US$1 or less a day. Another 10 to 12 million eastern Europeans are now living on incomes equivalent to between US$1 and US$2 a day. Over the same period in western Europe, incomes increased by more than US$1,700 billion equivalent.

The same, but more sharply defined, inequalities are present in other regions. In sub-Saharan Africa, southern Asia and Latin America, the numbers of underprivileged are steadily rising. Sub-regional, ethnic and gender-based inequality is also rising, while diseases such as malaria and HIV/AIDS put special groups at risk.

Failure of Traditional Approaches to Infrastructure Provision

In recent years, developing countries have invested about 4% of national output in infrastructure – nearly 20% of total investment, or about US$250 billion annually – yet the results have been disappointing, particularly in terms of the impact on the underprivileged.[1] The numbers of 'infrastructure-poor' people are vast in each region. Some one billion do not have access to safe water, and spend up to 10% of their income trying to obtain it. More than two billion lack sanitation, with serious consequences on their health, and two to three billion are without modern energy services, spending up to one-third of their disposable income to purchase energy services. In sub-Saharan Africa, less than 8% of the population is connected to the power grid system.

In human terms, these statistics are devastating. In developing countries, water-related infections are the primary cause of the high incidence of diarrhoeal diseases, which kill about two million children and cause 900 million episodes of illness each year.

1. *Public-Private Infrastructure Advisory Facility (PPIAF),* Annual Report, *2000.*

Another troubling aspect, because of its long-term consequences for educational attainment, are the numbers of children who cannot adequately prepare for school due to a lack of proper illumination. These children are further incapacitated by brain damage and lung diseases brought about by indoor air pollution, as their households are reliant on traditional fuels.

Until marked improvement in the reduction of inequality around the world can be shown, there will be impatience about the slow results, or the total lack of results, of the large investments in infrastructure.

Private Investors Can Lead the Way

Private investors can lead the way in bringing innovation and change to work at the global scale for better development results. There are a number of conditions that need to be in place for innovation to take place, allowing entrepreneurs to create new types of services, that can then be made available to consumers at cheaper prices and better quality. It is often claimed that there are 10 key activities that the government needs to undertake.

Greater efficiency and productivity in the provision of public services are essential to fostering growth and closing inequality.

Trends in Innovation and Technology

Infrastructure has long been recognised as having a key role in opening up markets and promoting innovations, as it provides the basic building blocks needed for economic and social life – a way to communicate ideas and a way to exchange goods and services.

In the 18th century, the Scottish social philosopher and political economist Adam Smith recognised transport's role as, for example, a means for enlarging markets, promoting innovations and generating surpluses for reinvestment. What has changed today is that this role is shared between transport and communication, with the Internet playing a bridging role in connecting communities that may not even have a transport link with one another, as all these connections are now made in cyberspace. This provides a great opportunity for the developing world, where access to physical transport is seriously lacking, but, as indicated by the statistics on the digital divide, it has not yet been possible to make this technology relevant to meet this communication gap.

Modern utility services can also make quantum leaps in a community's living and health standards by substituting for expensive traditional supplies of basic services. Tapping into innovative ways of generating energy, instead of waiting for communities to be connected to the grid, has shown great potential. An example of this is the women in a village in Bangladesh using solar-panel technology to make lamps for household illumination, while generating income for themselves.

The ingenuity of private investors in the face of often daunting conditions for doing business is to be admired. Focus on the ingenuity that makes it possible to buy a can of soft drink in the remotest parts of the developing world should be shifted onto also making it easy to get a drink of clean water. For example, an innovative financing tool for a small-scale company from the West, in partnership with a small-scale company in a developing country, can be combined to provide innovations in new ways of filtering water.

Conducting business in the emerging markets' infrastructure sectors is not that much more difficult than making other investments:

- The developing world does not lack entrepreneurship and there are many local partners who could provide international investors with the required 'local knowledge'.
- It is not necessarily more burdensome in terms of business permits, clearances, environmental licences, etc., to start a utility than to open a retail business. In fact, it may be less cumbersome in infrastructure because of special and recently enacted enabling legislation.
- There are few technology issues in many cases – the largest single ingredient in any soft drink, for example, is clean drinking water.
- Projects that raise the productivity of whole communities are more likely to be directly affordable and to have wholehearted public support, perhaps, than retail or commercial ventures.

Of course, governments also must do more. They need to focus beyond just addressing the backlog in the availability of adequate physical assets. Greater efficiency and productivity in the provision of public services are essential to fostering growth and closing inequality. As well as roads to drive on, communities need improvements in how governments are run and in the reach of public services.

In India, for example, it takes about 10 years to obtain a court date in a simple commercial suit. Such bottlenecks hamper change and deter development. Strengthened administrative capacities and improvements in institutional support and oversight are needed to sustain the gains from expanded fixed investment. Governments also need to reach out to improve the quality of people's lives. Enhanced quality of life and enriched human resources will help to cement improvements as each new generation carries the gains forward. Governments also need to slim down. Communities need improved macroeconomic and fiscal management in order to avoid crowding private investors out of thin capital markets by government spending and borrowing activities. Governments need to retire from providing services that the private sector can and will deliver.

In short, governments need to exploit all avenues for raising productivity and encouraging productive use of assets now lying idle. Two prongs of this approach can be seen as especially important to promoting the productivity of physical infrastructure:

- the human and social systems that support the development of literacy, good health practices and skills needed for personal development; and

- the institutional systems of licences, permissions, permits, regulations and administrative and review functions that provide essential services to firms and create the business environment.

Lastly, the international community must do more. Of the US$800 billion in private capital market-flows to developing countries during the 1990s, only around US$130 billion was for infrastructure projects, and a little over one-third of that was private loans or bonds that financed public-sector projects. Allowing for direct equity contributions, as much as US$120 billion to US$130 billion may be needed in international financing for private infrastructure over the course of the decade, compared with estimated 'needs' in developing countries of US$250 billion a year.[2] In the 21st century, the bulk of international capital flows will be between western Europe and North America.

However, the international markets are not the only players in financing infrastructure. There are strong synergies between long-term finance needs of infrastructure projects and the development of local savings instruments, but most of the long-term credit available in many countries is absorbed by government deficits. Improved public-sector management is key to making more of the domestic savings pool available for productive investment, but private investors must also be willing to work with fledgling financial institutions, and it is one of the principal roles of the multilateral banks to promote financial markets development.

The international community has also accepted ambitious targets for reducing inequality over the next 15 years.[3] Meeting these goals will require more than just money and 'development projects'. They require creating opportunity for poor people to take advantage of the resources they have.

It is argued that the poor have vast wealth, but they are unable to capitalise on it because it is not part of the system of wealth that is recognised by institutional or traditional practices. Thus, they are unable to capture the value of that wealth in access to financial and real resources. The value of looking at how property rights are exercised is identified as much as at how wealth is created in attempting to raise living standards.[4] They require making public services more accountable and more responsive to the needs of all in society and particularly the poor.

Voices of the Poor: A Study To Inform The World Development Report 2000/01 on Poverty and Development[5] shows, for the first time, that 'having a

2. *Sixty-two per cent of US$130 billion is US$80.6 billion. At a debt/equity ratio of 70/30, total investment is US$115 billion. At a ratio of 60/40 it is US$134 billion.*
3. *The World Bank (2000),* The World Development Report 2000/2001: Attacking Poverty. *By 2015, reduce extreme poverty by half; ensure universal primary education; eliminate gender disparity in education; reduce infant and child mortality by two-thirds; reduce maternal mortality by three-quarters; ensure universal access to reproductive health services.*
4. *Hernando de Soto (2000),* The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else.
5. Voices of the Poor *consists of three books, published by The World Bank, that bring together the experiences of over 60,000 poor women and men. The first,* Can Anyone Hear Us?*, gathers the voices of over 40,000 poor women and men in 50 countries from The World Bank's participatory poverty assessments. The second book,* Crying Out for Change*, draws material from a new 23-country comparative study. The final book,* From Many Lands*, offers regional patterns and country case studies.*

seat at the table' is important, and that participatory decision systems are more likely to result in the types of improvement that are most effective in raising living standards. They require reducing vulnerability so that unexpected events do not tumble families and communities back into the poverty they have worked so painstakingly to overcome.

'Safety nets' were first heard of in the context of the dismantling of the Soviet state enterprises during the early 1990s and, later, during the ravages of the Asian financial crisis. Protection against vulnerability is also important at the family level – protection against illness or accidents – or for the community, like all-weather connections that defy periodic interruptions to economic and social activities from storms or floods. Protection against catastrophic risk is also critical, as disasters are a downward trigger into poverty in the absence of insurance and other risk-management instruments.

18th century in Adam Smith's writings, is even truer with the changes in technology and innovation faced today.

More importantly, infrastructure extends beyond physical structures and municipal services to include social and institutional norms that help to define the business environment.

The author identifies four aspects of infrastructure that are necessary to make lasting changes for economic and social conditions:

- physical infrastructure, to provide the basic fixed capital for private and commercial activities;
- guaranteed service flows from the physical infrastructure, ensuring that providers are responding to effective demand and are doing so efficiently – a form of social infrastructure;
- business (or commercial) infrastructure that creates a supportive environment for commercial activities and investments; and
- financial infrastructure that mobilises domestic and international investment resources.

... infrastructure extends beyond physical structures and municipal services to include social and institutional norms that help to define the business environment.

Summary

The changing emphasis of the role of infrastructure emphasises that infrastructure is central to reaching the social targets that have been set, as it provides the basic building blocks needed for economic and social life by providing:

- a way to communicate ideas and a way to exchange goods and services that enhances innovation and also allow increased inclusion and empowerment of individuals and communities through information connectivity and reduced geographic isolation;
- expanding economic opportunities and the possibilities for creating more competitive enterprises and services, and widening options for earning income; and
- improving health, quality of education, living conditions and personal security through improved hygiene, illumination of homes and neighbourhoods and safe and reliable transport.

This centrality, which was recognised as early as the

Finally, in order to meet the social goals that have been set, renewed efforts by the following are needed:

- project developers, to seek long-term market-building investments, making best use of local skills and resources;
- governments, to open their economies widely to the financial discipline and ingenuity of the private sector;
- international financiers, to see value in the emerging markets and appropriate risk-reward opportunities; and
- multilaterals, to help share risks and focus on improvements that will provide long-term solutions to reducing inequalities. ■

Facing the Poverty Challenge – The Role of Infrastructure

a report by

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Frannie A Léautier is the Chief of Staff for the President of The World Bank Group. Prior to this, Ms Léautier was the Director for The World Bank's Infrastructure Group, comprised of the merged practices of transport, water and sanitation, urban development and energy. She joined The World Bank Group in 1992 and has worked as a transport economist in the Latin America and Caribbean and South Asia Regions, and as a research economist in the Development Economics Department. She served as Sector Director for Infrastructure in South Asia from 1997 to 2000. Ms Léautier is recognised as a leading expert in infrastructure strategy formulation in developing countries. Prior to joining The World Bank, she taught at the Center for Construction Research and Education, and the Department of Urban Planning, at the Massachusetts Institute of Technology (MIT). She is a recipient of a number of excellence awards, including Best Manager, from The World Bank Staff Association and an IFC/PSI Senior Management Performance Award. She is Associate Editor for *Journal of Infrastructure Systems* and a member of a number of international committees on infrastructure development. She has also completed the Harvard Executive Development Program. Ms Léautier received her MSc in Transportation, and her PhD in Infrastructure Systems, from MIT.

The Challenge of Poverty

The Global Development Community is facing a grave challenge that can be summarised as how the environments and lives of the urban and rural poor can be transformed, helping them to build communities and improve their living conditions, strengthen their ability to integrate into a rapidly globalising world and, at the same time, maintaining a sense of community and place. Not only does this challenge need to be met, but it must be to scale and within our lifetime. Despite major gains over the past 25 years, there are still around 1.5 billion extremely poor people, and this number is increasing daily. Inequality is rising in many countries. There are 125 million children out of school – 80 million of which are girls. There are five million infant deaths per year and 22 million people have AIDS in sub-Saharan Africa alone.

This problem is played out in grim reality in the urban centres around the world. Today, over 300 million people live a life of degradation in urban slums without access to most basic services. On a daily basis, slum residents face multiple threats to their health and security. They are excluded from the city's prosperity and have little voice in the public decisions that control their destiny. Conditions in slums are becoming worse and the slum population in the developing world will double by 2025.

The Role of Infrastructure

What this has to do with infrastructure has provoked much debate in recent years. It has to do with whether infrastructure has a role in poverty reduction. Evidence from various sources ranging from surveys of poor people, theoretical work, empirical studies and project results has uncovered a number of powerful linkages.

A survey of over 40,000 poor men and women in 50 countries on their view of development indicates that they consider infrastructure as important as health and education.[1] When The World Bank Group develops Country Assistance Strategies along with its clients, they rank infrastructure as an extremely important element in the process of their development.

Economic theory has identified that physical capital and infrastructure capital are complementary to and can be substituted with human capital and social capital at different stages of development.[2–4] Others have emphasised that, when knowledge economies are considered, there is a lock-in effect of history, and that the starting point matters.[5] Economies richly endowed with infrastructure and other physical capital are better able to garner the benefits from knowledge embedded in people and technology.[6] Furthermore, countries already endowed with rich infrastructure, as a result of past investment, are better able to benefit from opportunities presented by globalisation and locational advantages or geography.[7]

Empirical work has demonstrated further inroads on the nature of the linkages between infrastructure, economic growth, inequality and poverty. It has been shown that growth is good for the poor, in particular, it has been found that:

1. *Deepa Narayan, et al. (2000),* Voices of the Poor: Can Anyone Hear Us?, *Oxford University Press.*
2. *Philippe Aghion, Eve Caroli and Cecilia Garcia-Penalosa (1999), "Inequality and Economic Growth: The Perspective of the New Growth Theories",* Journal of Economic Literature, *December 1999, pp. 1,615–1,660.*
3. *Philippe Aghion and Jeffrey G Williamson (1998),* Growth, Inequality, and Globalization: Theory, History, and Policy, *Cambridge University Press, Cambridge, UK.*
4. *O Galor and O Moav (1999), "From Physical to Human Capital Accumulation: Inequality in the Process of Development", Working Paper, http://econ.pstc.brown.edu/faculty/galor/working/pdfs/gmii.pdf*
5. *Gene M Grossman and Elhanan Helpman (1991),* Innovation and Growth in the Global Economy, *MIT Press, Cambridge.*
6. *Gautam Ray, T R Lakshmanan and William Anderson William, "Increasing Returns to Scale Inherent in Affluent Post-Industrial Economies: A Theoretical Inquiry", forthcoming in* Growth and Change.

"The income of the poor rises one-for-one with the overall growth of the economy. This general relationship between income of the bottom fifth of the population and per capita GDP holds in a sample of 80 countries covering four decades. Although there is a fair amount of variation around this general relationship, a number of popular views about the poverty-growth relationship are not true. The effect of growth on income of the poor is no different in poor countries than in rich ones."[8]

It is further argued that trade and openness benefits the poor to the same extent that it benefits the whole economy, and therefore, by extension of the argument, that globalisation is good for the poor.

Other analyses indicate that globalisation reduces the number of absolute poor and also decreases income inequality. They also indicate that the complementary role of infrastructure to human capital is critical for balanced growth.[9,10] More detailed empirical work argues that there is an impact of infrastructure on productivity, but it depends on industry type, location and starting point of infrastructure endowment.[11] Others show that there is an impact of infrastructure on productivity and growth in the manufacturing sector, and slight positive impact of infrastructure on income distribution.[12]

However, there are also a number of empirical findings that caution against this positive impact of infrastructure on poverty reduction and on economic growth. The first cautionary result is that the benefits of infrastructure depend on the level of wealth a country has achieved. Middle-income countries get very high returns from infrastructure compared with low-income countries, where priorities are numerous, and infrastructure is only one of many needed inputs to development.[10]

The second reason is that the cost of infrastructure is high in low-income countries, which are also the countries that need to have the infrastructure. Costs are high because of the need to import technology and know-how, as well as the network effects, since fewer people can afford to connect to the networks of water, electricity and roads, making the cost per unit of stock much higher when compared with that of higher-income countries.

Figure 1: Energy Links to Poverty Reduction

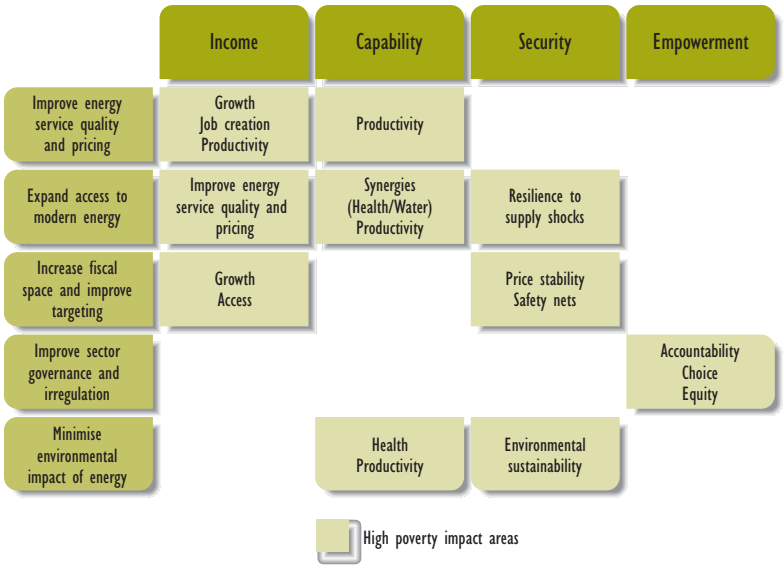
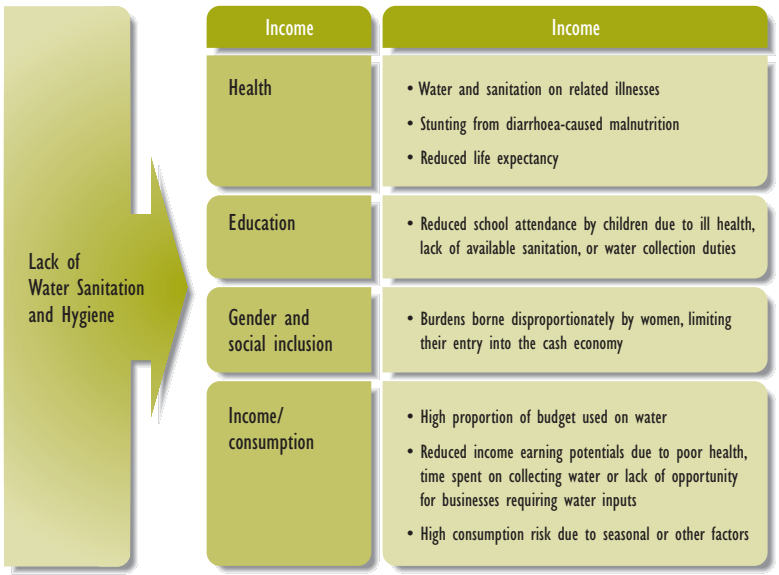


Figure 2: Linkages between Poverty, Water and Sanitation



7. *Paul Krugman (1998), "The Role of Geography in Development", paper presented at the Annual World Bank Conference on Development Economics, 1998.*
8. *David Dollar and Aart Kray (2000), "Growth is Good for the Poor", mimeo, The World Bank.*
9. *A T Kearney (2001), "Measuring Globalization",* Foreign Policy, *A T Kearney, Inc., The Carnegie Endowment for International Peace.*
10. *David Canning and Esra Bennathan (2000), "The Social Rate of Return on infrastructure investment",* Policy Research Working Paper # 2390, *The World Bank.*
11. *Naoyuki Yoshino and Masaki Nakahigashi (2000), "The Role of Infrastructure in Economic Development", paper presented for the Global Development Network Conference, Tokyo, Japan, December 2000.*
12. *Eujine Kim (2000), "The Impact of Transportation Infrastructure Investments on Growth and Equity: Applications of the Translog Cost Function and Recursive CGE Model of Korea", paper presented for the Global Development Network Conference, Tokyo, Japan, December 2000.*

Table 1: Burden of Disease Attributable to Lack of Water and Sanitation

Disease	Burden of disease (000 disability-adjusted life years (DALYs))		Distribution of % burden of disease attribution to poor water and sanitation		
	Rural	Urban	Low	Median	High
Diarrhoeal diseases	1,024	184	80%	90%	100%
Polio	76	21	0%	50%	100%
Hepatitis	137	15	30%	40%	50%
Filariasis	28	12	0%	50%	100%
Trachoma	18	6	25%	60%	100%
Intestinal helminths	117	34	75%	90%	100%
Protein energy malnutrition	312	62	0%	25%	50%
H. pylori (peptic ulcers)	70	24	20%	60%	100%
Other digestive disorders	70	48	0%	20%	40%

Distribution of percentage of burden of disease by sector, attributable to poor water and sanitation (percentiles)			
	10th	50th	90th
Andhra Pradesh	8.2%	8.7%	9.2%
Rural households	8.6%	9.1%	9.6%
Urban households	6.8%	7.2%	7.6%

Source: World Bank estimates, based on Andhra Pradesh Burden of Disease study (1996).

Table 2: Differing Strategies and Ability to Attract Private Capital

Change in...	private investment as a % of fixed investment 1980–1997	decentralisation as a % of spending 1980–1997
Australia	8.3	-3.0
Brazil	-1.1	1.2
Canada	-1.1	-9.3
Costa Rica	18.6	-0.2
Dominian Republic	14.6	1.0
Guatamala	16.6	0.2
India	17.1	2.2
Kenya	7.1	-0.9
Malaysia	10.3	-1.1
Mexico	24.5	8.3
The Netherlands	1.2	-2.9
New Zealand	18.0	1.5
Paraguay	-3.1	0.7
Peru	9.1	14.6
South Africa	22.0	29.1
Thailand	-0.5	2.1
United Kingdom	17.0	-2.0
United States	-0.6	4.4

Source: World Development Indicators (1999).

The World Bank's own work has shown that there are positive impacts of infrastructure on development. For example, evaluation results of the *1990 Poverty Reduction Strategy* outlined in the *1990 World Development Report* show the following:

- poverty and growth are negatively correlated from a regression over 10 years in 63 countries
- overall long-term growth over a 10-year period is significantly larger than that of shorter periods; and
- reduction in poverty can come from growth or an improvement in the social sectors, or both.

Other results, taken at the project level, are also quite striking. For example, transport projects in Morocco and Bhutan have shown that there is a positive link between transport and the enrolment of girls in primary school, a completely unintended effect.

Infrastructure and Poverty

The discovery of these positive but unintended consequences, coupled with the urgency of finding scalable solutions to reduce poverty at the global scale, has resulted in a rethinking of the linkages between infrastructure and poverty. New thinking at The World Bank in the context of the work that is being done to help countries prepare Poverty Reduction Strategies[13] has resulted in a typology that links infrastructure services to impacts on poverty reduction.

Using the energy sector as an example, one can find that improving the quantity, quality and reliability of energy services to a community or a city can lead to economic growth, job creation and increased productivity. These benefits map into higher income

13. http://www.worldbank.org/poverty/strategies/

for the poor and enhances their capabilities (see *Figure 1*).

Expanded access to modern energy services can help small-scale enterprises that cannot afford back-up generators for unreliable/unavailable electricity. This is also critical for poor households, as poor power quality reduces the lifetime of electricity appliances, and the poor cannot afford repair costs. With respect to the health dimension of capability, it has been observed that no access to modern fuels leads to low labour participation rates for women, high indoor air pollution and a high rate of child mortality.

... improving the quantity, quality and reliability of energy services to a community or a city can lead to economic growth, job creation and increased productivity.

Considering the ability of the poor to participate in the benefits of globalisation and the knowledge economy, it is expected that access to electricity improves access to information and opportunities to study, which consequently results in higher educational achievements. Similar linkages can be made with respect to water and sanitation, as well as transport and other infrastructure services (see *Figure 2*).

Empirical Evidence of Expanded Linkages

The new thinking at The World Bank is bolstered by empirical results. For example, a provocatively titled study conducted in 2000 found that environmental health is, to a large extent, a child and maternal health issue. In particular, the prevalence of health risks caused by the lack of access to infrastructure services makes environmental health a poverty-related issue. This study found that the distribution of the burden of environmental health cannot be simply explained by income levels or the level of a particular service. Thus, environmental health adds another important dimension to the multi-faceted nature of poverty, and needs to be integrated better into poverty-reduction strategies.[14]

Traditional environmental risks at household and community levels, such as the lack of access to protected water and sanitation, and indoor air pollution due to the use of biomass fuels, are responsible for the majority of illnesses and premature deaths related to environmental causes (see *Table 1*).

According to the study, the death of young children under the age of five, primarily in rural areas, is the largest component of the burden of disease due to unhealthy household environments. The next most vulnerable group includes rural women who are particularly affected by exposure to smoke from dirty cooking fuels, and by unsafe water and poor sanitation.[13]

The Critical Role of the Private Sector

The importance of infrastructure in poverty reduction, and the high costs facing developing countries for providing this infrastructure, as well as the time lags in meeting the infrastructure service gaps, is great, and the challenge is to find new ways of delivering these services.

Among the key players in providing innovative infrastructure solutions are the private sector and communities. The private sector, by providing much-needed financing, can result in reducing the fiscal burden to the government so that the government can focus on providing other critical services such as healthcare and education. When the private sector is involved in providing and managing infrastructure, there can also be more competition, which leads to improved technology development and selection, drives costs down and reduces corruption.

The private sector is also adept at taking and managing risks, but countries differ in their strategies and abilities to attract private capital and hence need help with structuring privatisation, as well as financial instruments that can help them bridge the gaps between what the market has to offer and what the countries are seeking (see *Table 2*).

Therein lies the critical role of multilateral institutions, such as The World Bank, that can help provide the knowledge and advisory services, capacity building and the financial instruments to meet the needs of developing countries. ■

14. Gordon Hughes (2000), "Why Babies Die in India", mimeo, The World Bank.

Housing and the Poor – What Has Been Learned and What Can Be Done

a report by

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As indicated by several publications on this topic, poverty appears easier to recognise than to define. Most recent definitions have focused on feelings of insecurity, powerlessness and marginalisation, together with insufficiency of assets, savings and income, and low purchasing power and lack of access to basic necessities.

While some see insecurity, powerlessness, marginalisation and similar features as separate poverty indicators, it may be that these are consequences of the low income and purchasing power of the poor, and that they would be most likely easier to address through a focus on income improvement rather than as separate issues. In a similar vein, increasing assent associating poverty with such issues as human rights, women's rights and indigenous rights, while important, could complicate the debate and weaken focus on the key area of income insufficiency. A more important area of focus for these groups could be income distribution issues. There are indications that greater distributional inequality is generally associated with higher levels dissatisfaction, violence and polarisation.

Where the Poor Live and Why They Live There

Poor people live in the areas in which they perceive that they can maximise the overall benefits of the money they spend at their income level and on their preferred consumption 'baskets', e.g., food, shelter and municipal services. There may be a related issue regarding the degree to which the poor select the area in which they live and to what degree this is decided for them as a result of their poverty and circumstances. It should be noted that, at some point, and to a certain degree, all income groups face some type of constraint, although those constraints facing the poor may be relatively much more.

The poor receive poor services due to low purchasing power (demand side) and poor quality of goods and services offered (supply side). While non-poor areas may have relatively better goods and services available, in most less-developed countries (LDCs), there is generally an overall low quality. In many cases, supply factors better explain the poor quality of goods and services.

Poverty Alleviation

As the most recent *World Development Report* shows, poverty alleviation is high on the agenda of The World Bank, donors and governments. Many efforts are being made to address poverty issues. However, indications are that there is need for a clearer vision on the type of intervention needed, the real cost and benefit of such intervention, its sustainability, where it should be focused and how it is to be implemented. Apart from deciding whether the focus should be on demand or supply issues and constraints (or both), there is also the element of the timeframe, where at least three time-horizon periods can be identified: short-term, medium-term and long-term.

Equity, transparency, sustainability and replicability should be among the key features of any viable poverty reduction initiative. For the long term, a focus on the demand side to increase income level and distribution may be the most logical and desirable option. Along with growth, this means, among other things, a focus on the main determinants of earning capacity, e.g., education and skills, employment opportunities, health, age, sex, assets. On the supply side, the long-term focus should be to help improve product and service quality, production efficiency and related actions aimed at providing more quality output at lower cost, with improved reliability and choices.

With increased income on a sustainable basis, households will generally improve their purchasing power (by moving to different areas offering better baskets, for example, stay and spend more, buy better quality products, etc.) with greater empowerment and less feeling of insecurity and helplessness, assuming that parallel institutional and related changes occur.

Short-term and medium-term approaches of donors/lenders and governments have generally focused on

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ways of augmenting the purchasing power of select target groups for specific consumption items (both public and private goods) that are deemed to be priority ones – for example, in nutrition and health programmes, social safety nets and social investment funds. Strategies for interlinking and transitioning among short-term, medium-term and long-term approaches, with all of the necessary complementary actions for sustained income enhancement initiatives, have generally not been clear at many levels among donors, lenders, borrowers and other players.

The importance of self-help and microemployment activities to help improve income levels and finance a continuation of the consolidation process is also a key element.

Housing

At any given income level, families make decisions on what to spend on food, shelter, transport, education, utilities, health, clothing and other necessities. For the poor, food, shelter and transport generally account for most of their household expenditures. From the point of view of residents, housing is important because, apart from the size of expenditures, there are many associated sociocultural and economic factors.

Among these factors are the uniqueness of housing for protection, as a centre of family and community life, health and social wellbeing, a source of employment and a store of value. The latter two characteristics have been very important during periods of high inflation and uncertainty. In the absence of easy access to the formal banking system, housing has been used as a store of wealth and to help finance other household and income-earning activities.

The social security role of housing for many owners, particularly the poor, is also an important one. From a more macroeconomic point of view, housing comprises one of the most important categories of a nation's stock of wealth. It can also be a key component of the construction sector, generating direct and indirect employment at various levels. Overall, while it can be viewed as a private good, housing generates high positive externalities.

It is worth repeating that the best way to encourage improvement in consumption level for the poor is to improve their income on the demand side and to ensure that the supply of basic items is being provided efficiently under competitive conditions.

The private formal housing market in most LDCs is thin and suffers from many institutional, financial, legal, normative and related constraints. Consumers that enter such formal markets are generally among the upper-income groups with access to credit or having their own resources to finance their purchases. Due to previously mentioned constraints, the cost of the solutions they buy is usually much higher and the quality generally lesser than similar solutions provided under less constrained conditions. Partly as a result of supply-side, as well as purchasing power constraints on formal housing, private informal housing usually accounts for a majority of the solutions built. These usually include some high-quality units, along with a large number of low-cost, poorly constructed units located in vulnerable or less-desirable zones. One typical characteristic of most informal units is the gradual improvement and modifications they undergo over time, reflecting the concept of housing as a socioeconomic process rather than a finished product.

What Has Been Learned

So far, most interventions in public housing programmes have generally had the impact of augmenting shelter consumption with little or no associated linkages to changes on the income side. Additionally, to a large degree, these programmes do not address several key supply constraints that keep most private-sector housing suppliers and financiers away from the market and prevent efficient market-supply conditions, e.g., possible quality improvement and lower prices. In several ways, by focusing on new housing programmes and ignoring or neglecting such issues as reform of the land titling and mortgage finance systems, public programmes prevent most existing homeowners, especially the poor, from enjoying the full commercial benefit of their assets.

Moreover, these public programmes provide completed units that invariably cost more than comparable units built by the private sector. In terms of economic impact and cost efficiency, while traditional public housing programmes have generally created some employment, these are usually minimal and temporary and they do not have the strong

multiplier effect that is usually associated with such activities. For most beneficiaries, the ratio of the new unit cost to beneficiary income compared with the ratio of their prior unit cost (ownership or rental) to their income generally shows the former to be much higher. This has been a significant explanatory factor for many high-turnover problems observed in public housing programmes.

After decades of efforts, most governments now admit that the goal of adequately providing for all qualified needy groups through traditional housing programmes is not sustainable for several reasons. Among the chief reasons are the large and growing number of applicants, the high programme cost and its adverse impact on the budget. Consequently, many have sought new approaches for addressing shelter needs. Unfortunately, even with the experience of past problems, there are still apparently several misconceptions about what is needed to develop a viable shelter programme and, while most of the old-style national housing banks and public housing programmes have disappeared, they are being replaced by similarly unworkable upfront subsidy entities and programmes.

By incorporating various forms of saving incentives, the new approach of explicit subsidies tries to avoid exclusive focus on the large and selective increase of housing consumption on the demand side alone. However, while they are now packaged as income-augmenting programmes that have some relation to the savings of recipients, beneficiaries are still required to spend the subsidy received on land and building, and not on any other high-priority areas the beneficiary may have.

A problem with most of the past housing investment programmes has been their efforts to selectively change household expenditure patterns without considering that they are derived from specific income and preference levels. Other things being equal, such interventions invariably lead to consumers trying to rebalance their basket of goods over time, the end result being efforts to sell or trade part of the housing windfall, generally at steep discounts, in order to re-establish their overall consumption-preference ratios. This is one explanation for the relatively high turnover of ownership (informal sales and rental) in many public housing operations, notwithstanding efforts by the authorities to block such sales by insisting on first buyback options or no-sale clauses.

In several instances, selectively increasing housing consumption with no sustained income increase can push a family into a worse economic condition if, for example, the recipient cannot or does not wish to sell the unit but, at the same time, cannot afford the incremental operation and maintenance costs. A related issue here is that, when beneficiaries acquire units under public or private sector formal programmes, many of them may face several additional expenses they were not formerly incurring, either because they had no previous service connections or because such connections were clandestine. Even titling, which is desirable and beneficial in many ways, can add new tax liability for owners after municipalities update their cadastre and tax-collection system.

An important lesson is that, if the absolute poverty level encompasses, for example, the lowest 20% of households, who cannot afford to satisfy their nutrition needs even if they use all of their income for food, any programme aimed at improving their housing position has to be either provided free of charge or with an additional income source for them to meet the incremental housing costs. Failing such actions, they would have to consume less in order to meet additional housing costs.

A common error in many public housing programmes has been the way in which, perhaps for political expediency, social welfare issues have been intertwined with public-sector housing programmes. This has invariably resulted in great difficulty in trying to reconcile cost recovery, replicability and sustainability goals on one hand with that of assisting the poorest strata of the population on the other. This also makes it almost impossible to resolve 'willingness to pay' and 'ability to pay' issues, and it creates several targeting problems and distortions. In order to demonstrate their commitment to the poor, many countries have had constitutional or other legal requirements mandating high and uniform norms and quality standards in shelter programmes, service quality, access, etc., for public entities, without apparently analysing several associated affordability and investment cost issues. Even in cases where no such constitutional mandates exist, policymakers generally insist on such high and uniform norms and standards.

What Can Be Done?

The experience of the last three decades shows that a new approach is needed to help address housing policy issues. Many of the elements of the required new approach are already incorporated in the policy paper, *HOUSING: Enabling Markets to Work*,[1] ("the policy paper") where the primary focus is on addressing supply-side constraints through proposals for improving the institutional, administrative, legal, financial and related framework.

1. *The World Bank (1993),* HOUSING: Enabling Markets to Work, *a World Bank Policy Paper, Washington, DC.*

Whatever form the new approach takes, it should take the assumption that housing and other basic needs deficiencies are largely an income and poverty problem – people do not have adequate housing units, food, services, etc., because they are poor. The long-term solution to these problems is to assist all affected families in improving their income level, rather than trying to selectively and temporarily assist only some members from an equally disadvantaged group, leaving the majority with no assistance. Apart from equity and sustainability issues associated with such actions, there is also the problem of trying to prevent such favoured groups from attempting to transform all or part of their 'windfall' to finance other priority needs.

In order to develop a workable new approach, borrowers, lenders and donors have to explicitly identify and address social welfare issues, separating these from other housing policy issues. It should be clarified that this is not a call for ignoring vulnerable low-income groups; rather, it is a proposal for clearer identification of such groups along with transparent and viable social welfare assistance policies and programmes for addressing the needs of these vulnerable groups on a consistent, equitable and sustainable basis. Perhaps because this is such a politically and socially complicated and costly issue to address most governments seem unwilling or unable to take the necessary action.

The focus on supply-side constraints and proposals for improving institutional, administrative, legal, financial and related frameworks should be a key medium and long-term strategy in any new housing policy initiative since, as explained in the policy paper, it affects all household income groups in various ways and provides the only sustainable path for sector development. For example, for the upper-income deciles, legal reform of foreclosure laws, mortgage lending conditions, rent control and related laws could encourage more private-sector participation. Some form of concessionary assistance to create and develop private-sector interest, e.g., greater mortgage financing for middle-income groups could be done as long as there are clear and measurable goals, clear timeframes and exit strategies. For low-income groups, simplified land titling procedures and systems, revised building codes and similar actions could help reduce land and construction costs and increase access.

The policy paper does not argue against assistance, including subsidies, for targeted groups if these can be justified and sustained; however, because the primary emphasis has been on policy and related sector intervention, it is sometimes felt that an important component on project-level intervention has not been given enough attention. For the poorest and most vulnerable groups (those among the lowest two to three deciles in income distribution), social welfare mechanisms should be put in place as their first line of support. The macroeconomic/budgetary implications of this may require such assistance to be offered only to those households most in need, while more creative low-cost options (such as incentives for room rentals by the relatively wealthier residents and community-based mutual assistance groups) are considered.

The largest asset base of most poor is their unskilled labour. By the process of elimination, if the poor have few other assets and low short-term prospects for obtaining additional resources (income or grants), they would have to begin using their labour or 'sweat' equity if they want to improve their housing or other consumption item. It may be argued that the poor are already using their labour to earn a living (mostly in the informal sector), and any additional demand from them would be unrealistic. If this is so, and there are no sustainable ways of augmenting their income or purchasing capacity, then the situation becomes bleak. There is ample evidence, however, that with appropriately leveraged assistance from such groups as non-governmental organisations (NGOs) and congressional budget offices, most residents, except for specific vulnerable groups, are willing to put some sweat equity into improving their own living conditions.

With the exception of those countries with significant open homelessness, most people have housing units, although these may suffer from several deficiencies, e.g., poor quality material and workmanship, unclear or no titles, location in distant areas, poor access to basic services, overcrowding and vulnerability to disasters. Beginning with the premise that people live somewhere, although the area or unit in which they live may not be ideal, the proposal is to focus not on an abstract ideal of 'dignified' housing costing a multiple of their income or the value of their current dwelling but on looking more realistically at what households now have, and to undertake to improve their existing units, or helping them to acquire new space, ensuring that these would in no case be worse than what they currently have.

For the significant number who live in overcrowded units or in hazardous areas, the goal should be to help them to find basic starter units that do not drastically distort housing as a share of their expenditures and would provide them with an opportunity to consolidate their units at the pace that their budgets would allow. Similarly, for basic services such as water, while the long-term goal may be to provide each family with in-house service, the short-term strategy, from an affordability and sustainability

standpoint, may be no more than ensuring that the water currently provided by private vendors is clean, reliable and reasonably priced. We need to work more with such non-traditional suppliers as water vendors and help them to improve their service and move into the formal sector over time.

Apart from the most vulnerable groups, the needs of which should be addressed under appropriately formulated social programmes, the goal of providing a shelter solution and level of service commensurate with a person's income is important for many reasons. First, it reduces the temptation for that person to try to dispose of the asset to rebalance expenditures since the value of the improvement is not substantial in the short term. Second, it is an extremely low-cost approach that does not have many of the 'lumpy' outlays as those for new housing and infrastructure investments under public programmes. Third, it can be done with sweat equity being a core input, leveraged in line with family needs and customs and depending on the circumstances of the beneficiary. Also, its impact on the national budget should be significantly smaller than new investment programmes. It is also a sustainable alternative.

With the above framework, dialogue on the enabling environment between The World Bank and individual countries can continue. At the same time, for the relatively poor, i.e. those above the extreme poverty line, who need shelter assistance, the options would primarily be among urban upgrading, urbanised lots and core units. Those above the fifth decile in household income level may need some assistance to encourage private-sector mortgage and related services. Assistance for home improvement would also be important for many income groups.

Even with this proposed approach, subsidies will not be eliminated. Instead, such subsidies would be used to reinforce some of the key policy reform measures. For example, given the importance of title for home consolidation, it may be extremely cost effective to offer to subsidise, for example, 70% to 80% of the title cost for qualified poor residents. Parenthetically, this assumes that the government would also be ensuring that the titling system is reformed appropriately so that it facilitates ease of titling, system updates, reliability, etc.

Similarly, if there is a programme promoting urbanised lots or core units, it is expected that there would have been a review of the appropriate building norms and standards, codes, etc., so that overdesign, review and approval and related bottlenecks are eliminated and the system encourages code compliance. Several variations of matching grants and subsidies can be offered as incentives to leverage such activities as community participation, home improvement, maintenance, private mortgage financing and related initiatives. In this way, the national authorities can determine on an annual basis what resources they have for subsidies and can then set priority areas for the period in question. In those instances where there are public lands or assets that are not being used, instead of using these directly in shelter programmes, the assets could be sold and the proceeds used to complement the subsidy programme, providing greater siting flexibility.

The importance of a broad-based development approach is important in any effort to aid the poor. This means that, apart from providing incentives and helping the poor to improve their shelter facilities, there should be strong efforts to facilitate a variety of self-employment and microenterprise opportunities, education, health and related community services. The role of the communities and NGOs in these initiatives should be an integral one, with almost equal emphasis being placed on maintenance and sustainability factors as in the initial capital investment.

As noted in this article, there has been an inherent internal inconsistency in most of the attempts being made so far by donors, lenders, governments and other actors to address shelter problems in LDCs in a sustainable and replicable manner. In focusing on increased shelter consumption without commensurate changes on the income side, expenditure patterns are distorted, the budget burden increases and demand for new units grows. In many countries, social welfare issues have been intertwined with public-sector housing programmes, the result being great difficulty in reconciling cost recovery, replicability and sustainability goals on the one hand with that of assisting the poorest strata of the population on the other. Under such conditions, it becomes almost impossible to sort out willingness-to-pay and ability-to-pay issues and it creates several targeting problems and distortions.

By adopting policies aimed at improving the existing housing stock, along with selective low-cost intervention such as land titling, home improvement, serviced sites, appropriate technology services and core units, and addressing supply-side constraints through proposals for improving the institutional, administrative, legal, financial and related framework, a more viable path could emerge. The importance of self-help and microemployment activities to help improve income levels and finance a continuation of the consolidation process is also a key element. Judicious use of subsidies and similar incentives to encourage and leverage desirable private sector participation is another important element in the process. ■

Utility Reform – Regulating Quality Standards to Improve Access for the Poor

a report by

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Privatisation of infrastructure services is often followed by stricter enforcement of quality standards, which pushes up costs, with no positive effect on the exclusion of the poor. The poor could get easier access to service if the main provider was permitted to deviate from this uniform standard, offering poorer consumers a service in which an acceptable relaxation in quality led to a lower price. This article reviews the legal and technical challenges for quality diversification by utilities, and early results from efforts by some to diversify.

An important reason for reforming or privatising public providers of infrastructure services is the need to improve the efficiency and quality of service. When private participation is introduced, the tendency of governments is to focus on the service provided by the main utility and set high quality standards for the sector as a whole.

Private participation also goes hand-in-hand with setting up independent regulatory agencies. These agencies have better capacity for monitoring and enforcing quality arrangements than the government bodies previously in charge. As a result, governments tend to become tougher on standards following utility privatisation and the costs of quality usually go up (even if the quality standards set by law have not been modified).

Quality standards, defined in law or the private provider's contract, can cover production (resource management), product and service delivery (chemical and biological, continuity) and customer relations (flexibility in payment methods). These quality targets for private provision can be set through a variety of legal instruments. The choice of instrument depends on the frequency with which the standard will need to be changed and the number of parties involved in agreeing changes to the standard, among other things.

Health, security and environmental requirements (such as the regulation of drinking-water quality standards, or the quality of sewage discharges) have a significant impact on mortality and morbidity and on the utility's costs, and should preferably have foundations in primary legislation. The process for modifying laws is usually more complex and difficult than for secondary legislation or bilateral contracts. If consumers and third parties see laws protecting their interests, they will be more likely to accept the private participation as legitimate. If the provider is satisfied that these rules are not going to be modified overnight and that it would be duly consulted in the process for modifying them, this can lower its perception of risk and ultimately reduce the cost of service through a lower cost of capital.

For standards requiring greater flexibility, regulations (founded in laws) that can be more easily amended by the regulatory agency might be more appropriate. Less fundamental aspects of quality, which may need to be changed frequently (for instance, when pricing conditions are reviewed), are better expressed in contractual clauses (for example, customer service standards, such as the delays for responding to an enquiry by mail or by telephone).

High Quality Standards

There are three main reasons why quality standards tend to be set high for main utility providers in developing countries. First, such providers have often inherited operating structures and tariffs from large-scale operations not used to considering low-cost options or alternative provisions at the community level. The culture in such large organisations is often to derive 'professional pride' from top-quality uniform service, not from bold innovations in low-cost alternatives.

Second, investment designs are often based on developed countries' standards. Quality standards are often driven by engineering specifications, such as standards for the installation of electrical wiring in houses or the minimum depth for pipes beneath roads. Usually, these engineering norms were designed in developed countries and, in the absence of anything more relevant, exported unchanged to the regulatory handbooks in developing countries. The expectations of the elite in developing countries also push towards the adoption of developed countries' standards of service. While lower-cost alternatives do exist in developed countries, they are

no longer the norm and are not necessarily considered when setting standards in developing countries. For example, in-house septic tanks are often still in use in rural areas in France and the US.

Third, large private utility providers tend to focus on high-margin customers and often have no financial incentive to develop low-cost provisions. They have generally entered the market through international tender processes to carry out large-scale investments. In some utility markets, however, the optimal scale of production has declined and even main providers now consider small-scale low-cost alternatives far more seriously.

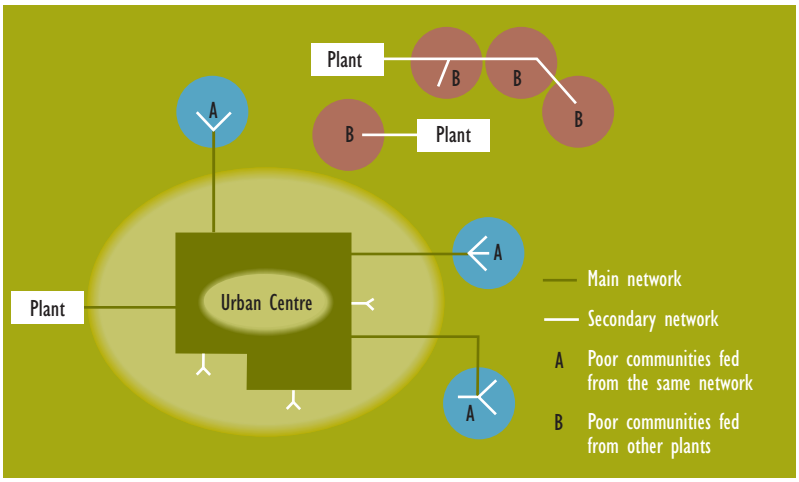
Practical Challenges for Diversification

High standards of quality result in higher costs, limiting access to the service for the poor.[1] Regulators could make services more accessible, if they allow diversification of quality, making it legal to offer poor consumers a service in which acceptable reductions in quality reduced the price. One way to achieve this diversity is to end the main provider's monopoly, permitting alternative providers to meet the needs of poorer consumers at a lower price. Another is to permit the main provider to diversify its quality, especially since network supply often remains cheaper in the long term than decentralised supply. Electricity supplied through a network, for example, is potentially of much higher quality than electricity from solar panels or diesel generators. Networks' economies of scale and scope make their prices likely to be lower in the long run.

However, there will sometimes be technical limits to quality diversification. For infrastructure services that tend to be jointly consumed (such as water or grid electricity), it can be technically difficult to vary the quality of service for different social groups or service areas. *Figure 1* illustrates a main production plant feeding into the network for the whole of the urban centre. Some poor areas (A) are fed from this main network, so quality characteristics such as voltage consistency or drinking-water quality cannot be differentiated easily for these peripheries. Only characteristics such as reliable hours of service, payment methods or customer services could be differentiated for these areas. For other areas (B) that are supplied by other plants (which might belong to the main provider or alternative providers), quality of supply could be more extensively varied.

Another difficulty is that cost differences driven by quality differences might be difficult to reflect in tariff terms. If quality differentiation affects the level of initial capital costs, it can be relatively easy to relate quality differences to tariffs by varying the connection charge. However, if quality variations lead to differences in marginal production costs, these might be more difficult to reflect by varying the volumetric charge. In some cases, variations in the quality of service provided through the network are likely to have a relatively small impact on operating costs, and the administrative cost of reflecting these cost differences in tariffs might be higher than the savings. For example, if lower quality means restricted supply hours, sophisticated meters would need to be installed so that consumers could be charged different prices at different times of the day.

Figure 1: Varying Potential for Diversification of Infrastructure Service



In addition to this, identifying the target group for lower-quality, lower-cost service might prove difficult. There is little socio-economic data in most customer registers. Poor customers may sometimes live in well-defined areas as in *Figure 1*, but they are often mixed with rich customers within the same administrative unit. As in the allocation of subsidies, the important issue then becomes delivering the lower price (and the associated lower quality) to the element of the population that is most in need.

Some Efforts to Diversify Quality

Despite these difficulties, some main providers have varied service quality in an attempt to make their services more affordable for poor customers. This diversification has taken several forms – the provision of more flexible customer-service arrangements or the use of low-cost technologies to reduce the cost of service, at the expense of quality. Consumers have also agreed to receive the service during a reduced number of hours each day in exchange for a

1. *B Baker and S Trémolet (2000), "Regulating Quality: Let Competing Firms offer a Mix of Price and Quality Options", Viewpoint, No. 221, The World Bank, http://www.worldbank.org/html/fpd/notes/221/221Baker-10-24.pdf*

Cheaper is Not Always Better

According to a report by ESMAP (the Energy Sector Management Assistance Programme), managed by The World Bank, the costs of labour and materials for building a three-phase line can be cut from between US$8,000 and US$10,000 per kilometre, to US$5,000 per kilometre (and to US$4,000 per kilometre for single-phase lines) by using higher voltage and higher-quality poles to reduce life-cycle costs, and properly sizing and placing transformers.[2] Single-phase lines are often sufficient to carry the type of loads used in rural areas, and are more suited to business uses than alternatives to network supply, such as solar or diesel generation. However, the study emphasises that not all construction savings are necessarily efficient: "An initially inexpensive line that needs frequent maintenance, overhauling, and upgrading can require considerably greater investment during its lifespan than a line that has been adequately designed from the outset."

discounted price. In the UK, for example, electricity and gas utilities have for some years offered prepayment cards to their customers. This means that supply can be interrupted if the payment is not made. Continuity of service suffers but it allows customers to monitor and control their expenses even though the costs may be high.

In some cases, diversification of quality has required entering into agreements with alternative providers or community organisations that tend to be more specialised in the delivery of low-cost services. For example, Aguas Argentinas, the concessionaire of water and sanitation services in Buenos Aires, worked in partnership with a low-income community, a non-governmental organisation and local government when taking over the low-cost system in the Barrio San Jorge. In this district, the community had experimentally developed a double system of water provision – one system connected to the existing network to provide small volumes of potable water, and another that can draw on groundwater sources, too salty for drinking but sufficient for washing and bathing. The sewerage system was based on a combination of cesspits within each household and a small-bore pipe network. Aguas Argentinas took over the operation, maintenance, and repair of the system and the residents pay a fixed rate for these services.

The company has since introduced the low-cost sewerage system to other poor areas of the city. The double water system, however, proved too expensive to develop and did not go beyond the experimental stage. To increase the network expansion rate, Aguas Argentinas also takes over networks built by communities at lower costs (but respecting the minimum quality standards) in exchange for which customers receive a discount on the price of the service.

Interesting cases of collaboration between the main providers and small-scale entrepreneurs have emerged in the telecoms sector through the development of public telephone booths. In Senegal, for example, small private operators run telecentres and rent lines from Société Nationale des Télécommunications du Sénégal (SONATEL), the national operator, which was privatised in 1998. These telecentres have grown very quickly, and produce about four times more revenue per line than individual lines run by SONATEL.

Conclusion

To increase access for the poor, the regulator of service quality should allow the main provider to diversify the quality of service, and should also allow alternative providers to operate. It should be left to the consumer to decide whether to accept the lower-quality service from the main provider. When regulating service quality for the main provider (privatised or not), governments should allow the delivery of different quality levels to different customer groups, to be identified on objective criteria and enforced. This would help with the problem of undersupply or oversupply of quality. This possibility should be explicitly allowed in the contract, so that penalties are not unduly paid for sub-standard quality. Flexible payment options should also be explicitly allowed, such as the capacity to spread payment of the connection charge over a number of years. Main utility providers should also be encouraged to work with alternative providers in order to combine service options. If individual choice is difficult and costly to organise (for example, for service characteristics that are jointly consumed), ways of identifying group preferences should be defined in order to vary service quality at the level of well-identified groups. Several methods for measuring group taste can be considered – the transfer of experiences from other locations, deliberate experiments (for instance, voluntarily varying the quality of service in a number of locations and measuring relative customer satisfaction), group and community consultations and survey studies. ■

2. *ESMAP (Energy Sector Management Assistance Programme) (2000), "Reducing the Cost of Grid Extension for Rural Electrification",* Report 227/00, *The World Bank, Washington, DC.*

Infrastructure Delivery, Poverty Alleviation and Related Problems

a report by
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Infrastructure Defined

'Infrastructure' is defined by *Webster's New Collegiate Dictionary* as "the underlying foundation or basic framework (as of a system or organisation)". Elsewhere, it has been defined as "the system which supports the operation of an organisation". In developed countries, the term could well relate to air, road and rail networks, water supply systems, communications networks, education and health delivery systems and more. However, in the Zimbabwean local government's vocabulary, more often than not, the term 'infrastructure' refers to water storage, delivery, purification and reticulation systems, sewage treatment and disposal networks, road networks, public lighting and refuse removal and disposal systems. All other above-ground development or construction is usually referred to as 'superstructure', for example buildings such as schools, houses, clinics and community halls.

The rather restricted definition of infrastructure also results from the fact that, in Zimbabwe, urban local authorities are not responsible for rail, air and communications networks. However, given the inseparable benefits in the alleviation of poverty arising from superstructure, it has been considered appropriate to treat it as an extension of infrastructure. For the purposes of this article, therefore, any reference to infrastructure shall be deemed to include superstructure as explained above.

Infrastructure Benefits

It goes without saying that the construction, or putting in place, of infrastructure is a source of employment. In Zimbabwe, the contribution of infrastructure delivery to employment is so significant that it has meaningfully supported the construction industry.

According to June 2000 figures, an average of some 67,600 employees with earnings of US$689.6 million were employed in the construction industry in December 1999. Some of the jobs included the digging of trenches, laying of pipes and clearing and construction of roads, as well as actual building. Further jobs have been created for the actual operation of the assets constructed. These have included the operation of water and sewerage works and pump-stations, the running of schools, clinics and community centres and the operation of workshops for the maintenance of roadworks and public lighting. Employment during and after the construction period leads to poverty alleviation for those directly involved.

Road Network

The existence of a good road network not only facilitates the smooth movement of people and goods, but also creates opportunities for business. For the small enterprising businessperson, the presence of roads has led to thriving transportation businesses. These range from commuter omnibuses to street vendors' barrows, which have gained popularity as a cheap means of moving vegetables and other small items in the informal business sector. A sizeable number of people depend on these activities for their livelihood.

Water Delivery System

The delivery of clean water has assisted in the control of waterborne diseases and the conveyancing of sewer to disposal sites. In addition, for most residents, the presence of water means cultivation of a small vegetable patch from which survival is possible. The need for abundant water supplies is one reason why the City of Bulawayo ("the City") has always directed its efforts at increasing the amount of water available for its residents. In fact, the City also runs a social welfare programme whereby it allocates some open spaces serviced by standpipes for vegetable gardening by the underprivileged members of the community. Through these programmes, some of the beneficiaries have managed to ward off extreme poverty by catering for their basic requirements.

Schools, Clinics and other Community Centres

The provision of primary education at urban local authority schools provides an important base for further education for some, and basic literacy for

those who leave school prematurely in order to take up jobs or start their own small businesses.

An effective primary healthcare system offered by the local authority clinics provides benefits in that clogging of the referral hospitals that should deal with more serious cases has been alleviated.

Problems Arising from Infrastructure Failure and Backlogs

A good understanding of infrastructure delivery could well be facilitated by consideration of the forces that drive its provision. The basic reason for infrastructure delivery is need. For the City, delivery of infrastructure has been demand-driven with guided implementation. This demand has arisen from two sources:

- the rural-to-urban migration as people drift into the City in search of jobs or some other opportunity of making a living; and
- the increase in the population at the rate of 4% per annum.

Unfortunately for the City, the infrastructure in place is not only old, but is also inadequate to take the pressure from the additional load. Worst affected are the water and sewerage systems, where the frequency of water and sewer faults has been a cause for concern. The faults have inconvenienced some sections of the City either by depriving them of water supplies while the problem is being attended to, or by being a source of intolerable smells and a possible health hazard. By way of illustration, throughout 1999, burst water pipes numbered 535, while 15,298 choked sewers required attention. Other problems resulting from the infrastructure backlog are outlined below.

Housing Needs

Due mainly to the rural-to-urban migration, the waiting list of those in need of accommodation has increased to about 27,000. Most of these are presently lodging in other people's premises. In fact, lodgers only in the high-density areas are estimated at slightly more than 10% of the population in those areas, which is approximately 690,000. Apart from the City's inability to provide serviced stands and houses at a fast pace, the unpalatable economic situation has put paid to a lot of these people's hopes of ever owning accommodation of their own.

Financing Local Government in an Uncertain Environment

While the local authority is grappling with the problems outlined above, it is doing so in a most uncertain economic environment. The environment is characterised by high inflation, an unpredictable interest-rate regime and serious foreign currency shortages.

The latter has led to periodic shortages of fuel, the price of which has been increased several times within a short period. The increases in the prices of inputs, coupled with the prohibitive interest rates ruling to December 2000, have brought about the restructuring of a number of companies that have been forced to reduce both their production and workforce. Companies have either relocated from the City, liquidated or are on the verge of liquidation, which would leave scores of people unemployed. The obvious result is an increase in the numbers of the urban underprivileged. The City has also witnessed an increase in debtors as increasing numbers of consumers are experiencing difficulties in paying for services.

Financing Recurrent Operations

Due to the shortage of money, the City has had to rely frequently on overdraft facilities and credit lines offered by its financial partners. This has only been possible because of the its 1999 credit rating of BBB-. However, the City has also embarked on a restructuring programme that should result in the streamlining of operations in order to cut down on costs. While not intended to contribute to unemployment, it is inevitable that some redundancy and separation packages will have to be offered if the restructuring process is to succeed.

Capital Finance

The City's success in raising capital finance through stock issues has relied on the implied guarantee related to the prescribed assets regime. Contrary to expectations that the prescribed assets – investments in government or quasi-government securities – were going to be phased out, the regime is still in place with insurance companies required to hold 45% of their investment portfolios in prescribed assets, while pension funds have to maintain a ratio of 30%. With the central government's limitations in providing local authorities with adequate consessionary loans at its current rate of 18%, it is highly unlikely that the City's capital finance requirements will be met from this source.[1]

It is worth noting that the City's capital budget for 2001 stands at US$1,282 billion. As government moves to convert part of its short-term liabilities to long-term loans, a cash saturation from treasury bill maturities, together with other measures, have seen short-term interest rates tumbling from between

70% and 80% to all-time lows of less than 20%. These rapid unprecedented changes have created an opportunity for the City to raise capital funding for its infrastructure. Currently, the City is in the process of raising some US$400 million for part financing of, among other projects, those outlined in *Table 1*.

Should efforts to raise the US$400 million be successful, it is logical for the City to attempt to raise a further amount to finance its infrastructure backlog, provided the interest rates remain favourable.

Table 1: Financing Required for Infrastructure Projects

	US$ millions
Roadworks	*204.2*
Water services	*216.7*
Sewerage works	*134.5*
Housing	*100.0*
Primary schools	*70.0*
Libraries	*15.0*
Clinics	*11.2*
Total	***751.6***

Donor-funded Projects

There is little doubt that the financial assistance provided in the past by donor agencies such as USAID (The United States Agency for International Development) and The World Bank has been greatly appreciated. Such assistance has largely been directed at funding the servicing of stands, with some financing for the provision of clinics, schools and community halls. In the case of Bulawayo, these funds have been put to good use as the intended projects are there for all to see.

One shortcoming has been the lack of provision of funds to the local authority for the construction of houses with preference for the delivery of housing by the private sector. While the private sector has played a part in the provision of houses, these have tended to be unaffordable for the intended beneficiaries. The result is that the houses have, in a number of cases, been taken up by those who can afford them and, in turn, rent out portions of the houses to those originally intended as beneficiaries.

Yet another scenario is one where the serviced stands are allocated to the intended beneficiaries who, because of a lack of financial ability to construct the houses themselves, enter into agreements with those who can afford them, who then construct the houses and lease them out to the originally-intended beneficiaries. Either way, the intended beneficiaries end up as lodgers who have to pay more than would otherwise be expected. In some instances, the prohibitive building costs discourage the beneficiaries to the extent that they leave the allocated serviced stands undeveloped for years. The obvious result is that good money continues to be ploughed into the ground through the provision of unproductive services. This state of affairs calls for consideration to be given to allocating a sizeable portion of available funding for the construction of houses through force account, particularly where viable building brigades are in place.

Another problem is the lack of flexibility in as far as it relates to implementation of projects where they are least needed. A case in point is the location of projects such as public lighting and clinics. What has tended to happen is that the implementation monitoring process has insisted on the location of some of these projects being carried out in areas in which it was believed they would be needed at the inception of the programme more than five years ago, despite changes in circumstances on the ground and advice to the contrary.

A difficulty that local authorities have had to live with is the disbursement mechanism, which, on termination of the programme, has tended to leave local authorities with significant liabilities arising from delayed settlement of contractor claims and consequent interest charges. For future programmes, it might be worthwhile, on the basis of merit, to consider disbursements directly to the local authorities. This should not only improve the payment of contractors, but would speed up the delivery of projects, especially in volatile economies.

All things considered, the donor-funded programmes have been successful in putting the much-needed infrastructure in place. Given the backlog that the City of Bulawayo has to deliver, it is unfortunate that this kind of assistance has been curtailed when it is most needed. Poverty alleviation certainly deserves better. ■

Author's Note

Reference to the City of Bulawayo throughout this paper is meant for purely illustrative purposes, and does not seek to project the official position of the Bulawayo City Council. Similarly, any reference to the country, Zimbabwe, is meant to achieve the same illustrative intention. This paper represents the author's personal views that are the result of his close association with the City of Bulawayo.

1. *Nyoni Middleton (2000),* "Financing Urban Local Authority Projects in Zimbabwe with Reference to Bulawayo", *presented at the Global Conference on Capital Markets Development at the Subnational Level, 15–18 February 2000, New York.*

The Re-emergence of Infrastructure Finance in Emerging Markets

a report by
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William Streeter joined Fitch's Public Finance Department in October of 1997 and is currently a Managing Director in the Global Project Finance Group. His major areas of global responsibility include public infrastructure finance, with a specialisation in transportation finance. He is also a senior member of the Fitch rating committee. From 1985 until his recent assignment, Mr Streeter worked at Moody's Investors Service as Manager of Canadian ratings, Senior Vice President in the revenue specialties group and Senior Analyst for Mid-Western ratings. Prior to that, he was a budget analyst at the City of San Antonio. Mr Streeter has a graduate degree in City and Regional Planning from the Kennedy School of Government, Harvard University, and an undergraduate degree in Political Science from the University of Houston.

Introduction

The unremitting concentration of population and economic activity into large urban centres throughout most emerging market countries in Latin America and Asia has overwhelmed both the capacity and pace of investment in basic public infrastructure systems, whether it is for water, sewerage or transportation. The drive towards privatisation and concession-based project financing in the mid-1990s was seen by many governments as a way to jump start infrastructure investments. The feeling was that project finance could infuse new capital and better management practices into their poorly maintained and over-utilised infrastructure systems. The initial efforts of the mid-1990s were promising, but they soured with the contagion effect from the Asian financial crisis of 1997. While this explains the sudden interruption of new capital, it does not fully explain why infrastructure finance never really recovered. Evidence from the last decade points to difficulties caused by the government sector's rush to privatise basic public services, in most cases, without a proper transition period. This resulted in the inevitable 'clash of cultures' between public policy goals, public expectations and the private sector's desire for a reasonable rate of return.

Project finance can undoubtedly assist in developing a country's infrastructure. Nevertheless, traditional project finance techniques, which proved efficient for developing industrial, energy and telephone capacity, may not work as well for traditional public infrastructure. The key difference is the political nature of these basic infrastructure services. Only in areas such as those with electricity or telephone services, where there is a broad public acceptance for a corporate role in a public service can the traditional project finance model provide alternative capital for development.

Sustainable private investment in the public infrastructure arena may best be achieved through strong public-private partnerships. The key elements include an adequate foundation for private sector participation, and a clear articulation of public and private sector goals and expectations, not only in project documentation, but also through local public support. It is also tempting to introduce the cliché of 'putting your best foot forward' as a metaphor for selecting economically viable projects to finance. In infrastructure finance, a favourable impression is created with investors if a country's first few projects demonstrate strong economic viability. If these rules are followed, some capital market observers may be disappointed by the supply of projects to be financed, but never by the quality.

Continuing Impediments

While the government sector can improve the climate for infrastructure finance, there are still major impediments to a creating a sustainable supply of finance-ready projects. The recent Asian financial crisis exposed the fact that global investors still paint all emerging market countries with the same unfortunate brush, when it comes to political or economic volatility. Nevertheless, the sluggish recovery of infrastructure finance since then suggests deeper, problematic roots. Some of the more significant impediments include the following.

- **The absence of dependable revenue streams to back debt securities.** Capital markets count on dependable revenue streams in order to make 'full and timely payment' of debt service. State and local revenues, outside of federal transfers, rarely make a dependable revenue stream for infrastructure debt in emerging markets. This is partly because local government depends on federal transfers as the main source of revenues. The relative newness of decentralised government services is another factor. Local enterprises, such as water or transit authorities, are often plagued with poor revenue collections, reflecting their relative inexperience in operating as a business, but also the weak public acceptance for paying user fees. Toll roads can fare better, but still face difficult ramp-up risks during initial years of operation. Among the public infrastructure sectors, airports probably fare the best, but even this sector faces the challenges of airline route rationalisation and more pronounced economic cycles.

Jihomoravská plynárenská, a.s. (JMP)

1. Company history

This South Moravia Gasworks dates back to the middle of the last century. On 22 January 1848 the streets of the city of the Brno were first illuminated with gas lighting which was produced by the gasworks that had been established in the years 1846 – 1847. Since that time the Company has undergone a broad range of important technological changes, from its own production of gas lighting at the beginning of its existence to the distribution and sale of natural gas today.

2. Current Company Profile

The joint stock company Jihomoravská plynárenská is a gas distribution company, delivering natural gas and rendering ancillary services to customers of all categories in the region of South Moravia.
It is the largest gas distribution company in the Czech Republic, with a 24 % share of the country's natural gas market.

- maximal pipeline system operations, safety and absolute reliability of natural gas deliveries
- expanding the distribution network, with new customers hooking up to the gas infrastructure, a process connected with the extensive gasification of the South Moravia region, continues
- one indicator of the solidity and commercial success of JMP is its economic prosperity, expressed in increased Company value

3. Company Strategy

The premium position of JMP in the future will be influenced by anticipated changes arising from amendments (the New Energy Act) to full adherence to EU standards (application of the EU directives on natural gas market liberalisation).

4. Company Vision

JMP has started a new mission to be closer and friendlier to customers. Massive support for data processing and billing, establishing a call-centre and the launch of E-business will be new phenomena. Another great opportunity is in using our extremely extensive pipeline grid for co-installation of fiber optic cables to reach a new dimension in business.

5. Opportunities

This represents an excellent investment opportunity and chance for co-operation, and we are open to discussion on all aspects of our business.

Interested companies can contact us:

Jihomoravská plynárenská, a. s.
Plynárenská 1
657 02 Brno
Czech Republic
tel: 00420 5 4554 8111
fax: 00420 5 57 85 71
e-mail: jmpbrno@jmpbrno.cz
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- **The inability of governments to satisfy internal political considerations** that are often associated with privatisation. The rush to 'privatise now and worry about the consequences later' has defined the efforts of many governments to date, and is responsible for the general public backlash against privatisation. This is especially true in the water sector throughout Latin America, where project contractual covenants, government budgetary capabilities and public expectations all follow independent paths. There is not enough precedence where corporatisation precedes privatisation, and where public consultations provide sufficient awareness of not only the benefits but also of the cost of private sector participation.

- **The short-term project debt maturities result in remarketing risk.** Most emerging markets do not enjoy fully developed yield curves, so bonded debt beyond three to 10 years is not possible. Infrastructure projects require long lead times in order to develop a sufficient revenue base to retire debt. While many projects may have economic profiles well suited to long-term debt, market realities result in periodic debt remarketing risk. The litany of debt remarketing circumstances that can face infrastructure projects in emerging markets can be alarming – a volatile macroeconomic environment, politically motivated lawsuits, contradictory government mandates from varying ministries, etc. The cost of capital under such circumstances can be prohibitive.

- **The lack of sustainable project supply can deter investors.** In many cases, the small size of a country, or the limited number of large urban centres prevents a sustainable supply of projects from being able to come to market. Institutional investors like to know that the current transaction will not be the only transaction, and that other similar transactions will follow. One of the things that makes toll roads in Chile or in São Paolo interesting for investors is the continuing supply of debt offerings made possible from a basket of operating projects. In other cases, there may be a large number of projects, but the proposed financings are simply too small to attract institutional buyers. Large international investors, for instance, seem to have a transaction threshold in excess of US$100 million.

Maximising Chances for a Successful Infrastructure Project

There are never guarantees for a successful infrastructure project. This is true even if a government guarantees revenue or debt payment, since the resilience of their representations may not last through changes of administration, or times of financial crisis. Nevertheless, experience suggests some important ways to maximise a project's chances for survival, as follows.

- **Implement sufficient legal and regulatory reforms to induce private sector participation.** This entails not only concession law, which many emerging market countries are getting good at, but also the necessary financial, taxation and bankruptcy law reforms.

- **Select projects that best fit the national, state or local priorities for economic development.** Placing the project within the broader scope of a region's economic future helps to galvanise both public and private support.

- **Select projects with strong economic value.** The best projects, in terms of economic value, often serve an already developed area, so that revenue growth does not depend upon speculative future development. If demand for the service is high, this increases the potential to raise rates if and when necessary.

- **Select project partners with a strong commitment and experience.** This often involves a consortium of foreign partners with vast experience in constructing or operating projects within a particular sector, and equally suited local partners. The foreign partner may bring new capabilities and capital to the project, but the local partner best understands how to navigate through a country's legal and regulatory system.

- **Provide an adequate period of corporatisation prior to privatisation,** in order to gain interim efficiencies in the delivery of public services. If the public enterprise has time to operate as a publicly-owned business, including productivity gains and rate increases for capital improvements, this can facilitate its transition to the private sector.

- **Endow projects with sufficient financial protections to mitigate risk.** Project finance is risky by definition, but there are predictable financial pitfalls that can be mitigated. Endowing a project with sufficient liquidity during its initial operating period (either through reserves upfront, subordinate lines of credit or revenue guarantees) can mitigate operating ramp-up risk. Debt structure should also minimise (as much as possible within a local market) debt remarketing risk, given the often fluid nature of economic, political and legal supports for a project. Finally, foreign currency debt should be avoided where project revenues are earned solely in a local currency, or where project revenues are highly volatile.

Improving Governance and Infrastructure in a Developing World Context – Public-Private Partnerships in South Africa

a report by
André Fourie

Director, Effective Governance, National Business Initiative (NBI), South Africa

Introduction

Public authorities in developing countries are faced with increased demands for improved services, infrastructural challenges, fiscal constraints and scarce resources. There is a global trend to use public-private partnerships (PPPs) to improve the delivery of services, utilising the expertise, investment and management capacity of the private sector to develop infrastructure, as well as to improve and extend services to all residents.

In South Africa, the rationale behind such PPPs is that, although public authorities are responsible for ensuring that basic services are delivered, they need to actually deliver the services themselves. By sharing risk and reward with private operators, enhanced services are possible on a more cost-effective basis. Other rationales include the traditional inefficiencies in public provision, the opportunity for economic pricing and cost recovery, the deepening of private capital markets and major advances in technology.

However, there are a number of implications for democratic governance and public accountability. A number of critics have expressed reservations that PPPs will alienate communities, increase prices, marginalise the underprivileged, lead to corruption and undermine democratic accountability. This article addresses concerns that, although PPPs clearly enhance efficiency and improve access to finance, such arrangements could undermine local governance and accountability.

Public-Private Partnerships in South Africa

This article defines PPPs within the full continuum of infrastructure options (ranging from relatively basic service contracts to very complex concession arrangements). In South Africa, opportunities for private sector participation in infrastructure and service delivery at national level includes the transport sector (toll roads, high-speed rail), healthcare, schools, information technology, eco-tourism, fleet management and prisons. At local level, a number of PPP projects have been initiated, including water, urban transport, parking facilities, refuse collection, parks and recreation grounds and emergency services.

The South African Treasury has developed an explicit policy regime for enabling PPPs. Key requirements include demonstrable value for money (lower net cost of private provision), clear affordability within budget parameters (including whole-life costing), procurement through a transparent and competitive process, substantial risk transfer to the private sector, appropriate contractual arrangements spelling out public and private sector responsibilities and a schedule of outcome-based financial rewards. The state maintains ultimate accountability and becomes a contract manager rather than service provider. There are also strict requirements for monitoring private sector performance and ensuring compliance.

At local government level, a complementary set of policies and guidelines facilitate private sector participation in municipal infrastructure services. The council retains responsibility for ensuring that service is provided to the relevant residents and communities. The council must control the setting and adjustment of customer tariffs, monitor implementation of the agreement and manage the performance of the service provider. The Municipal Service Partnerships policy framework stipulates that decisions regarding the form and duration of PPP contracts will be left to the discretion of municipal councils (subject to certain guidelines and minimum standards) with a strong focus on performance monitoring, community participation and the elimination of corruption.

Good Governance

Good governance is a primary element necessary for sustained welfare gains and the reduction of poverty. The levels of development in societies and the effect of economic growth are positively correlated with the quality of governance. This fundamental lesson relates to both the capability of the state and the accountability and transparency of other institutions in society, including the private sector.

André Fourie is the Director of Effective Governance of the National Business Initiative (NBI). Mr Fourie has managed major development programmes in the areas of local government, financial management, local economic development and integrated development planning. He initiated the NBI's Public Private Partnership (PPP) programme in 1998, lectured and trained widely on the subject and launched a number of publications; culminating in the setting up of a PPP resource centre in 2001.

Despite the fact that there is no exact definition of governance that is useful to apply in all countries and conditions, there is increasing evidence of consensus around the core elements. At the macroeconomic or state level, key aspects that must be in place include democracy, peace, law and order, rule of law, secure property rights, transparent adjudication and application of the law, political stability, a sound legal framework, the enforceability of contracts and no tolerance of corruption.

Given the wide scope of the governance concept, it is useful to identify the core dimensions, which include the political, institutional, civic and corporate governance contexts. The political/public policy level requires policy effectiveness, prioritisation, equity, accountability, honesty, legitimacy, oversight mechanisms, monitoring, regulation, leadership and an ethical approach. Civic requirements include social relevance and priorities, community and stakeholder participation in the governance and decision-making process, sustainability of interventions, empowerment of minorities and a focus on the underprivileged.

At institutional or programme level, issues such as affordability, policy linkages, impartiality, performance management, cost recovery, human resource development and financial management are important governance elements. In the current global development context there is a growing focus on market-oriented development, reducing state interference (more steering and less rowing) and facilitating a conducive business climate.

The importance of good corporate governance is being increasingly recognised as vital for the world economy, corporate competitiveness and sustainable development. Indeed, it is attracting similar attention as the governance of countries. For institutions, it is all about the overall strategic direction, standards of behaviour, oversight of allocation of financial and human resources and balancing the interests of various stakeholders, as well as the sustainability of the enterprise.

Corporate governance defines the relationship between an institution and its owners, also recognising accountability to a wider group of stakeholders. The board must remain in control of the company, monitor the executive, ensure clear division of responsibility, determine executive pay packages and bring independent judgement on strategy, risks, resources and ethics. Controls and reporting functions are very important on the viability of business, ensuring a direct relationship with the auditors, and for the board to accept responsibility for the accounts. These standards are becoming more acceptable within the public domain.

The levels of development in societies and the effect of economic growth are positively correlated with the quality of governance.

Improvements in Governance and Accountability

The traditional inefficiencies of public provision and financing is a key motivation for private provision of infrastructure, focusing on potential savings by addressing leakage, overstaffing, dated technology, improper maintenance, etc. Other benefits include the tendency for inefficient pricing and under-recovery of costs so typical of public delivery in developing countries.

Official South African literature is filled with examples of standards and criteria to be applied to private sector providers of public services. For infrastructure services, the general principles for sustainable PPP arrangements and standards demanded of private providers include financing (limited tariff increases, clear investment requirements, financial scrutiny and access to accounts); operational performance (cost effectiveness, performance indicators, equipment specification, standard of services, response times); service standards (equitable coverage, environmental management, customer orientation, health and safety, environmental management); and oversight (transparency, competitiveness and monitoring of service levels). Particular attention is also paid to mitigation of labour displacement and sufficient stakeholder participation (especially workers and communities).

Table 1 summarises the likely governance impact of PPPs in South Africa, and can be applied to most developing contexts. At the country level, PPPs clearly create an additional demand for good governance, a sound macroeconomic framework and sound legal and contractual administration. The policy management implications appear to strengthen

Table 1: The Likely Governance Impact of Public-Private Partnerships in South Africa

Governance Dimension	*Likely PPP Impact*	*Governance Contribution of PPPs*	*Governance Risk of PPPs*
Macroeconomic/state level			
Democracy, peace and political stability	✔	*Creates demand for democracy*	
Legal certainty regarding rule of law, property rights, enforceability of contracts	✔	*Creates demand for legal architecture*	
No tolerance of corruption	*?*	*Competition and transparency to reduce corruption*	*Private sector bribes and false allegations by losing bidders*
The political/public policy level			
Policy effectiveness, prioritisation, legitimacy	✔	*Concessions require clear prioritisation*	*Affordable, rather than required, projects*
Oversight, monitoring and regulation	✔	*Explicit mechanisms needed, outputs contracted*	*Regulatory capture, skill & information asymmetry*
Honesty and ethics	*?*	*Highlights issue*	*Neither sector has inherent advantage*
Equity	*?*	*Exposes inequity of public provision*	*Can marginalise the poor*
Accountability	✔	*Clear performance requirements*	*Could undermine political control*
Civic requirements			
Social relevance stakeholder participation	✔	*Demand for priorities and customer focus*	*Could lose citizen perspective*
Empowerment, minorities, poverty impact	*?*	*Explicit targets, requirements*	*Could be excluded*
Project impact			
Policy linkages, outcome focus	✔✔	*more explicit budget choices and policy outcomes*	*Project focus rather than policy outcome*
Human resource development	✔	*Demand-based staffing, training targets*	*New public skills required (non-traditional)*
Cost recovery, financial management, economic pricing	✔✔	*Economic viability, ring fencing, revenue collection, deepen capital market, rational investment & costs*	*Financial focus only, affordability concerns*
Performance, expansion, maintenance	✔✔	*Visibly better delivery and performance, rational risk sharing*	*Unrealistic expectations*
Corporate governance	✔✔	*Clear standards and requirements, corporatisation encouraged*	*Inappropriate standards*

✔ *= positive impact expected,* ✔✔ *=very positive impact likely, ? = neutral or +/-*

the governance process by focusing policy-makers on strategic management rather than operations. Given the high process and output standards expected from PPPs in South Africa, it is arguable that compliance with such conditions will greatly enhance the governance of South African public authorities. The level of community consultation, transparency and end-user involvement will provide for enhanced governance relations. Some of the visible governance improvements at project and institutional levels are:

- incentives and discipline for cost-effective delivery;
- demand-based staffing, investment and operating cost;
- improved revenue management and customer care;
- commercial orientation and value for money;

- lower public spending, reduce public borrowing and improve credit rating;
- operational improvements in construction costs, project schedules and operating efficiencies;
- benchmarking and ring-fencing promoted to determine true costs;
- involvement of private sector and experienced financiers provide clear signal of project feasibility; and
- risks are identified, quantified and allocated to the party best placed to carry, mitigate and manage the risk.

Governance Gains Not Automatic

It is clear that infrastructure PPPs have the potential to dramatically strengthen governance, public management, institutional capacity and policy implementation. *Table 1* highlights the fact that such governance gains will not be automatic. Just as a private monopoly is unlikely to be more productive or more efficient than a public monopoly, it is important to ensure appropriate competition, regulation and incentives for private participation.

The following are key elements in ensuring that the governance gains of private infrastructure provision are secured.

- Transparent procurement, continued government responsibility, a proper contractual relationship and effective monitoring must be implemented.
- Value-for-money calculations are critical to calculating true, whole-life costs (including maintenance and capital charges) and to compare such cost and envisaged benefits against alternative service providers (public and private provision).
- Regulation is needed to protect the public interest regarding the abuse of market power and to ensure that the desired quality and quantity of services are provided.
- Competition for contracts and benchmarking of service standards and cost efficiencies can exert considerable pressure on the private sector to provide effective services at reasonable costs.
- Continuous service delivery improvements are possible if competitive forces are not limited to winning the contract, but are also utilised during the contract period. This is particularly useful during a 20 to 30-year concession.

The expected increase in private sector accounting standards, asset management, credit control and control procedures will provide a platform for higher government accountability.

Conclusion

This article argues that, through transparent procurement processes, effective contractual arrangements and effective regulation, it is possible for PPPs to enhance accountability within a sound governance framework.

Given the levels of accountability demanded of PPPs and the insistence of output specifications and contracted levels of service and customer satisfaction, it is clear that accountability in most public authorities will be greatly improved by PPPs if conceptualised and implemented within a sound development policy framework. The expected increase in private sector accounting standards, asset management, credit control and control procedures will provide a platform for higher government accountability. Indeed, it can be argued that most departments and municipalities would do well to study the expectations of private sector delivery, and actually implement some of the performance dimensions in current public management practice.

Private sector service delivery is not automatically more efficient than public delivery. It is the introduction of competition that provides the incentive for efficient operation and the potential for profit that encourages entrepreneurship and innovation. Using private finance, management and resources for the public good will thus be optimally beneficial within an effective contractual and regulatory environment. ■

Multi-utility Policy – Promotion, Tolerance or Control?

a report by
Dirk Sommer

Private Sector Development Specialist, The World Bank

Some utilities have responded to recent changes in technology and market liberalisation by turning themselves into 'multi-utilities' that bundle traditionally distinct services. "Multi-utility Trends – Blurring Industry Boundaries", which can be found in the *Reference Library* of the CD-ROM accompanying this Business Briefing, reviews recent trends in horizontal integration of utilities, while this article looks at the policy and regulatory implications of those trends for developing countries. The question facing policy-makers is whether the emergence of multi-utilities should be encouraged as a means of improving access and quality of utility services, or subjected to closer control to guard against potential dangers arising from less competition, greater regulatory complexity and more concentrated political power in the utilities.

For the past 20 years, governments have sought to lower costs, improve service quality and expand access to utility services such as electricity, telecoms, water and sanitation. Their strategy has been to liberalise markets and encourage private-sector participation. To take advantage of the opening provided by governments and new opportunities created by technological developments, the private sector has adopted new corporate strategies. One strategic response has been to expand from supplying a single utility service to a multi-utility format in which the firm offers two or more traditionally distinct utility services.

Potential Benefits

- **Lower costs, increased convenience** – utilities that bundle two or more services can often cut costs through economies of scale and scope, involving rights of way, physical assets, customer service functions, project development expertise and administrative costs. A recent review of the British gas and electricity industries found, for example, that utilities dealing in both forms of energy could achieve cost savings of up to 10%, compared with those supplying gas alone.

  The magnitude of savings will vary, and the extent to which savings are shared with consumers or accrued to shareholders will depend on the effectiveness of competition and regulation. In some cases, consumers may benefit from the convenience of dealing with a single service provider.

- **Critical mass** – remote communities are often too small to attract the attention of private investors in a single utility service. Bundling several services together in a multi-utility may help to provide critical mass and thereby reduce the costs of investigating opportunities, developing projects, participating in bidding processes and establishing a local presence. Several countries and municipalities have adopted such a strategy when privatising their existing assets (e.g., Cape Verde, Comoros, Gabon, Morocco) or extending services to rural areas (e.g., La Rioja, Argentina). Bundling also holds promise for extending services to the poor in rural or peri-urban areas.

- **Removing barriers to competitive entry** – competitive supply is feasible in a growing number of utility services that were once considered to be natural monopolies. In developing countries, networks are often undeveloped. New entrants may be discouraged if large investments are required to build out network infrastructure. The opportunity to leverage existing distribution networks, customer bases and other assets put in place to provide one utility service may reduce barriers to entry for companies intending to provide additional utility services in the same market. Several countries have used this strategy to enhance competition in telecoms services, and similar advantages may arise in other markets.

- **Lower payment risks** – government-owned utilities in many developing countries have low payment-collection rates – arising from corruption, inept management, poor service or theft – that contribute to a culture of non-payment and discourage new entrants. The threat of service cuts is often required to induce consumers to pay their bills, but in the case of some utility services – notably water and sewerage services – it is technically difficult and costly to disconnect consumers. Firms that offer several services may have greater leverage. Non-payment of water bills, for example, may be reduced by a credible

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threat to withhold other, less essential, services that are easy to disconnect. Reducing commercial risks will cut costs and prices and increase firms' interest in expanding services.

- **Lower political risks** – the price of utility services tends to be politically sensitive, and investments, once made, are specific and immobile. As a result, investors are vulnerable to opportunistic action by governments. Firms will not invest in a country if they believe that their investment will be compromised by direct expropriation or by a succession of small regulatory actions that amount to expropriation. A firm that supplies more than one service may perceive that it has greater influence with local political authorities and thus is less vulnerable to such risks.

Potential Disadvantages

- **Decreased competition between substitute services** – some utility services, notably power and gas, compete for the same customers in many areas. The potential for inter-fuel competition can reduce market power and thus facilitate regulators' tasks. Where such competition exists, the integration of electricity and gas distribution in one firm may increase the need for supervision, the extent to which will depend on the potential for competition from other service providers and the regulatory capacity of the government in question.

- **Other competition blockers** – multi-utilities may give rise to other policy concerns related to competition. For example, an incumbent multi-utility providing telecoms and electrical power may be able to leverage its position in the power market to enhance its market power in telecoms, thereby deterring competitive entry. The increased market power may flow from its knowledge of existing customers, its established brand name or its ability to bundle services. In addition, the multi-utility may be able to allocate common costs within the firm in a way that gives it an unfair competitive advantage in the contestable business.

  The risks presented by such anticompetitive strategic behaviour have led to regulatory disputes in the US and the UK. For example, the transfer of telecoms assets to an unregulated subsidiary at prices alleged to be below market value triggered a high-profile US court case (Boston Edison/RCN Corporation v. Cablevision Corporation). Allegations of unfair allocation of costs in connection with dual-fuel offers brought against a British gas supplier led to an investigation by the regulator. Where such risks arise, additional demands are placed on regulators to investigate allegations and determine remedies. The resulting cases tend to be complex and may constitute a significant problem in countries with limited regulatory experience and capacity.

- **More complex tariff regulation** – effective tariff regulation requires the regulator to have access to reliable information about a utility's costs and to be able to compare those costs with industry benchmarks. Multi-utility structures have the potential to greatly complicate that process. Several of the potential advantages of multi-utilities hinge on the use of common assets to provide more than one service. Allocating the value of those assets among services for purposes of setting and regulating prices is complicated under the best of circumstances and can present opportunities for firms to frustrate the regulatory process. Problems may also arise in determining a fair return on investments during price reviews. It may be difficult, for example, to determine the appropriate cost of capital for firms that provide multiple services but rely on undistinguishable financing sources.

- **Competing regulators** – multi-utilities pose challenges to co-ordinated oversight by regulators, which, in many countries, remain organised along industry-specific lines and located at different levels of government. For example, a firm offering electricity, telecoms and water services may fall within the regulatory jurisdictions of three separate regulators at two or more levels of government.

  Overlapping authority and unco-ordinated regulation complicate regulators' tasks and create opportunities for firms to manipulate the regulatory process. Such conditions can also increase the compliance costs of regulated firms, especially where regulatory requirements or approaches are inconsistent. Poorly defined responsibilities among regulators may also cause delays in tariff adjustments and lengthy processes for approval of changes in services. Multi-utilities formed as a result of acquisitions and mergers often fall within the jurisdiction of several industry regulators as well as the authorities responsible for regulating competition.

- **Political power** – multi-utilities may have more leverage in disputes with governments, but from the government's perspective the accretion of political power may not be a welcome development. The additional influence such firms may have – through their roles as tax-payers, employers and contractors – can create instability in emerging democracies.

When Choices Must be Made

Governments and regulators may need to consider the public policy implications of emerging multi-utilities at several junctures:

Intercontinental Consultants and Technocrats Pvt. Ltd.

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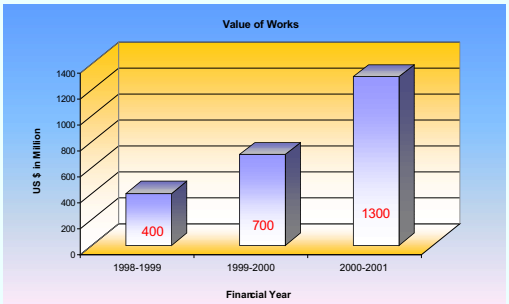

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Mr. A.D. Narain
Executive Director

Mr. B.I. Singal
Executive Director

Mrs. Poonam Kapila
Director (Finance)

Maj. Gen. J.M.Rai, (Retd.)
Director (Tech.)

Mr. L.K. Sharma
Additional Director (Highways)

Mr. P.R.Kalra
Additional Director (Bridges)

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Associate Director (Traffic & Transportation)

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Associate Director (Project Management)

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Associate Director *(Finance)*

Mr. S.K. Khatri
Associate Director (Highways)

Mr. H.R. Sharma
Associate Director (Highways)

Brig. S.K. Puri (Retd.)
Associate Director (Highways)

Mr. R.K. Manchanda
General Manager (Airports)

Mr. L.C.Mahajan
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Services

The company offers services in various disciplines of Civil Engineering ranging from Planning, Topographic Survey, Traffic studies, Feasibility Studies, Preliminary and Detailed Engineering, Computer Aided Designs, Privatisation Schemes under BOOT/BOLT to Construction Supervision, Training and Institutional Strengthening

Highways including Expressways, Widening and Strengthening of Existing Roads and Construction Supervision

Bridges including Interchanges, Flyovers, Overbridges, Special Inspection and Rehabilitation Services and Bridge Management Systems

Airports including Airport Master Plans, Pavement Designs, Geometrics, Layouts, Airport Terminals and Support Services, Airport Lighting and Power Supply Systems, Communication and Navigation Equipment

Tourism Development Studies including Eco-tourism, Cultural & Heritage Tourism, Adventure Tourism, Environmental Planning and Landscaping

Urban/Infrastructure Development including Preparation of Regional Plans, Master Plans, Development of Townships, Infrastructure Corridors, Wayside Amenities, Public Utilities, Water Supply, Sanitation, Public Health Services and Power Supply

Build, Operate & Transfer Projects including Project Identification, Feasibility Studies, Economic Viability, Identification of Funding Sources, Construction Agencies, Detailed Engineering and Construction Supervision

Ports and Support Services including Layout and design of services, buildings, access roads, infrastructure improvement studies and civil engineering structures

Typical Projects

Highways

Detailed project report for strengthening & four-laning of National Highways 5, 8 & 9 (ADB Projects), India

Feasibility study, detailed design of 800 km of roads of the NCR, India

Construction Supervision of ADB/World Bank Projects in India

Road master plan and feasibility study and preliminary engineering of road network in Mongolia - (ADB Technical Assistance)

Rural Infrastructure Project - Consultancy services for Technical Assistance for Project Management, Nepal (IDA funded)

Bangalore - Mysore Infrastructure Corridor (BOT Project), India

Darhan-Erdenet Road project Mongolia (KFAED funded)

Consultancy Services for Construction Supervision of Awasharba - Gewane Section of Modjo - Awash - Mille Road Rehabilitation Project (IDA funded)

Rural Access Roads Project, Lao PDR (ADB TA Project)

Third Road Rehabilitation and Maintenance Project, Bangladesh (IDA funded)

Bridges

DPR-Construction of 13 bridges in Kohalpur-Mahakali highway, NepalFeasibility studies for repairs and rehabilitation of Gia Bay and Vinh Tuy bridges, Vietnam

Airports

Domestic Civil Aviation Study, Nepal (ADB Project)

Runway Rehabilitation, Hulule Airport, Maldives

Tourism

Second Tourism Infrastructure Dev. Project, Nepal (ADB Project)

Infrastructure

Non-Motorised Transport study, Africa (African Development Bank Project)

- before privatisation, to determine whether an integrated utility should be restructured into several distinct utilities;

- in bidding, to determine whether restrictions should be imposed bidders for about-to-be-privatised assets;

- in mergers and acquisitions, to determine whether to allow post-privatisation mergers and acquisitions that would result in multi-utility structures; and

- in new entry situations, where incumbents in one sector seek to provide services in another.

The response by policy-makers, competition authorities and sector regulators will depend on an evaluation of the pros and cons in each industry and country and may well shift over time with changes in competition and other factors. In some cases, the arguments for multi-utility approaches may be so overwhelming that governments will elect to promote such arrangements. In other cases, some degree of restriction may be deemed necessary or appropriate. In the latter situation, three main policy and regulatory controls are available:

- **Cross-ownership restrictions** – restrictions on cross-ownership between utilities may be temporary or permanent. To protect nascent competition in the gas retail markets, British regulators imposed temporary restrictions on electricity suppliers offering dual-fuel services in areas not yet open to retail competition in electricity. The Republic of Korea chose to allow its power utility to provide leased-line telecoms services in competition with the incumbent telephone company only until 2002, by which time broader market competition was expected to have developed.

  Governments in several Organisation for Economic Co-operation and Development (OECD) countries have required telephone companies to divest their holdings in cable television companies and imposed cross-ownership restrictions. In the US, the *Telecommunications Act of 1996* repealed provisions that had prevented local telephone companies from providing new cable service within their telephone markets. The same legislation imposed new limitations on joint ventures by local telephone companies and cable-television operators serving the same market. Such companies may not acquire more than a 10% financial or management interest in each other or combine to provide telecoms or video services in the same area. Chile banned significant cross-ownership between water utilities and providers of other utility services in overlapping areas.

- **Account separation and 'ring fencing'** – the potential of firms to manipulate costs and engage in anticompetitive conduct or to frustrate effective tariff regulation may be addressed by mandating that the costs of each regulated business must be accounted for separately, a practice known as ring fencing. For example, detailed rules may be designed to govern the allocation of joint costs, and restrictions may be imposed on transfer pricing between business lines. Rules of this kind have been developed in the US and the UK, and a similar approach was adopted when a single concession for several utilities was awarded in Gabon. Designing and administering such rules can be difficult, however, particularly in countries with limited experience in regulating utilities.

- **Co-ordination among sector regulators** may be addressed in several ways. One approach is to create multi-sectoral regulatory bodies, which have a long history at the state level in Australia, Canada and the US, and are increasingly common in developing countries. Indeed, the growing integration of the British gas and electrical power industries recently led to the merger of two previously separate regulators. Similarly, the accelerating convergence of the telecoms and cable television sectors has led in South Africa, for example, to the consolidation of responsibility for regulating both industries.

  In the absence of full integration between regulatory bodies, it may be feasible for the regulators responsible for overseeing an integrated utility to agree on common approaches to key regulatory issues and to facilitate co-ordination more generally through joint working groups, an approach being followed by the sector regulators in Brazil and the UK.

Conclusion

The emergence of multi-utilities has important policy and regulatory implications for developing countries. The potential advantages of multi-utilities include lower costs, improved customer service, enhanced competition and expanded private investment, particularly in smaller or remote communities and in markets perceived to exhibit high risks. At the same time, offsetting costs emerge in some situations that include negative impacts on competition, regulatory complications and the concentration of political power. The costs and benefits of multi-utility strategies will need to be considered individually. In many instances, it may be possible to achieve balance through carefully calibrated regulatory responses, but the feasibility of those responses must be tested against the regulatory experience and capacity of the country in question. ■