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Balochistan Economic Report

From Periphery to Core
(In Two Volumes) Volume II: Full Report

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The Government of Balochistan

The World Bank

Asian Development Bank

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US$1 = 65.83 PKR as of May 7, 2008

ABBREVIATION AND ACRONYMS

AAA	Analytical and Advisory Activity
ADB	Asian Development Bank
APT	Appointment, Promotion and Transfer
BCDA	Balochistan Coastal Development Authority
BCF	Billion Cubic Feet
BEF	Balochistan Education Foundation
BOI	Board of Investment
BPSC	Balochistan Public Service Commission
BRMP	Balochistan Resource Management Program
BWRMA	Balochistan Water Resource Management Authority
CBR	Central Board of Revenue
CD-ROM	Compact Disk- Read Only Memory
DfID	Department for International Development
DOTS	Directly Observed Treatment Short course
DWT	Dead-Weight Tonnage
ECO	Economic Cooperation Organization
EEZ	Exclusive Economic Zone
FATA	Federally Administered Tribal Area
FBS	Federal Bureau of Statistics
GAVI	Global Alliance for Vaccines and Immunization
GDA	Gwadar Development Authority
GDP	Gross Domestic Product
GDS	Gas Development Surcharge
GER/NER	Gross Enrollment Ratio / Net Enrollment Ratio
GIE	Gwadar Industrial Estate
GNP	Gross National Product
GOP	Government of Pakistan
GPA	Gwadar Port Authority
GSP	Geological Survey of Pakistan
GST	General Sales Tax
HALP	Hot Arid Low-land Plains
HDPE	High Density Polyethylene
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
HRMIS	Human Resource Management System
IBIS	Indus Basin Irrigation System
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFC	International Finance Corporation
JICA	Japan International Cooperation Agency
LDPE	Low Density Polyethylene
LGO	Local Government Order
LIEDA	Lasbela Industrial Estate Development Authority
LPG	Liquid Petroleum Gas
MCC	Metallurgical Construction Corporation
MDGs	Millennium Development Goals
MMBTU	Million British Thermal Units
MTBF	Medium-Term Budget Framework
MTOE	Million Tons of Oil Equivalent
MW	Megawatt
NFC	National Finance Commission
NGO	Non-Governmental Organization
NIPS	National Institute of Population Studies
NVTEC	National Vocational and Technical Education Commission
NWFP	North West Frontier Province
OFWM	On-Farm Water Management
OGDCL	Oil & Gas Development Company Limited
OGRA	Oil & Gas Regulatory Authority
PASDEC	Pakistan Stone Development Corporation
PICS	Pakistan Investment Climate Survey
PIHS	Pakistan Integrated Household Survey
PPIB	Private Power and Infrastructure Board
PPL	Pakistan Petroleum Limited
PRSP	Poverty Reduction Strategy Paper
PSA	Port of Singapore Authority
PSDP	Public Sector Development Program
PSLM	Pakistan Social and Living Standards Measurement Survey
PVC	Polyvinyl Chloride
QESCO	Quetta Electric Supply Company
QWSA	Quetta Water and Sanitation Agency
SBM	Single Buoy Mooring
SESA	Strategic Environmental and Social Assessment
SMEDA	Small and Medium Enterprise Development Authority
SPS	Sanitary and Phyto-Sanitary
SSGCL	Sui Southern Gas Company Limited
TMAs	Tehsil Municipal Authorities
TEU	Twenty-foot Equivalent Unit
UNFPA	United Nations Population Fund
UNDP	United Nations Development Program
UNODC	United Nations Office on Drug Control
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Agency
WDR	World Development Report
WRMA	Water Resource Management Authority
WTO	World Trade Order

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TABLE OF CONTENTS

TABLES

FIGURES

BOXES

PREFACE AND ACKNOWLEDGEMENTS

This report is a joint product of a team from the Government of Balochistan, the World Bank and the Asian Development Bank. In April 2006, the Balochistan Government constituted a counterpart team of government officials, who were closely involved in the Report's preparation. This team was headed by Mr. K. B. Rind, former Chief Secretary and Mr. Qayyum Nazar Changezi, former Additional Chief Secretary (Development), Government of Balochistan, and included Mr. Ghulam Muhayuddin Marri, Chief Economist and Mr. Zulfiqar Durrani, Chief of Section (Foreign Aid). The task team also benefited from the considerable support of the Secretaries of Planning and Development, Finance, Excise & Taxation, Local Government and Rural Development, Services and General Administration, Education, Health, Population Welfare, Livestock, Agriculture, Fisheries, Mines and Minerals, Irrigation and Power, Transport, Communication and Works, and Industries Departments and the Balochistan Public Service Commission, Provincial Public Accounts Committee, Accountant General, Bureau of Statistics, Provincial Environment Protection Agency, Mining Association of Pakistan, Small and Medium Enterprise Development Association, Balochistan Coastal Development Authority, Balochistan Development Authority, Gwadar Development Authority, Gwadar Port Authority, National Highway Authority, Geological Survey of Pakistan, Arid Zone Research Centre, Water and Sanitation Agency, Water and Power Development Authority, Balochistan Resource Management Program, Quetta Chamber of Commerce and Trade Association, Port Qasim Authority, Karachi Chamber of Commerce and Industry and many other institutes.

The report was prepared by Kaspar Richter and Zahid Hasnain in the Poverty Reduction and Economic Management (PREM) unit of the World Bank's South Asia Region, under the guidance of Satu Kahkonen, Lead Economist, Manuela Ferro, former Lead Economist, Ijaz Nabi, Sector Manager, Yusupha Crookes, Country Director, John Wall, former Country Director, Ernesto May, Sector Director, and Sadiq Ahmad, former Sector Director. The World Bank peer reviewers were Farrukh Iqbal and Mark Thomas. The team from the Asian Development Bank comprised Safdar Parvez, Madiha Ahmed and Farzana Noshab. Khalid Ikram provided overall guidance for the report.

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PART 1: FROM PERIPHERY TO CORE

1.1 SETTING THE STAGE

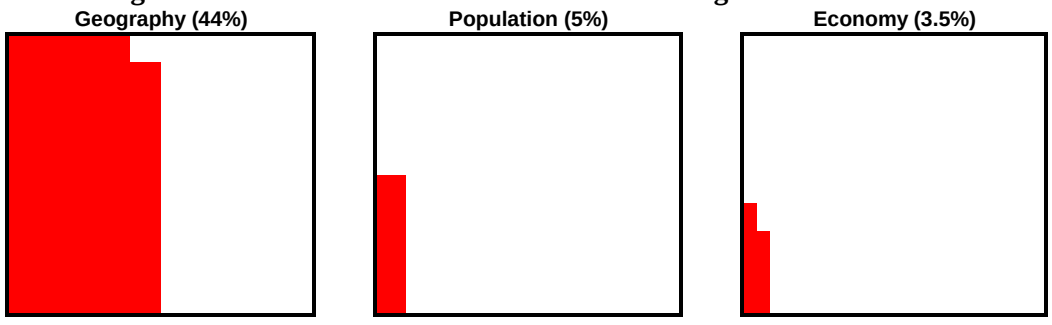
1.1 Balochistan offers some of the best assets for development. Balochistan is generously bestowed with natural and locational resources. It possesses the largest land area of any province of Pakistan, proving vast rangeland for goats, sheep, buffaloes, cattle, camels and other livestock. Its southern border makes up about two thirds of the national coastline, giving access to a large pool of fishery resources. As a frontier province, it is ideally situated for trade with Iran, Afghanistan, Central Asia and the Persian Gulf countries. Over the last four decades, it supplied cheap natural gas to Pakistan's economic centers, supporting the country's industrialization. The province also claims large deposits of coal, copper, lead, gold and other minerals.

Figure 1.1: Pakistan's Province of Balochistan

Source: World Bank

1.2 And yet, Balochistan's economy has not done well (Figure 1.2). The province has Pakistan's most anaemic growth record, worst infrastructure, worst water crisis, and weakest fiscal base. The poor economic performance leads to poor living standards. Balochistan has the highest poverty—along with NWFP, lowest social indicators, and, in parts of the province, the weakest state institutions. Last but not least, newspapers carry almost daily headlines about internal conflicts in this frontier province. All this has earned Balochistan a reputation of being a backward region, far distant from Pakistan's economic hubs, with a life burdened by the toils of the field and rangeland and tribal disputes rather than a hub of activity surrounding world-class mining explorations, modern trade links, sustainable agriculture and an empowered community.

Figure 1.2: Balochistan as share of Pakistan along three dimensions



Source: Population Census 1998 and World Bank

1.3 Many developing countries have well-recognized areas where poverty has been persistently high and economic growth has not kept up with other regions. The western provinces of China, the Northeast of India, the Southern States of Mexico, the West of Argentina, the Northeast of Thailand and the Northeast of Brazil are just few examples of such "lagging regions". Similarly, developed nations, such as the Canada, Italy, or the USA also have regions with chronically low incomes compared to national averages. Economic geography, a branch in economics developed in the 1990s, is all about where economic activity takes place. It offers two concepts that are important in understanding lagging regions (Krugman 1998). First, differences in economic development across locations can emerge from underlying, inherent differences in those locations, such as climate, sea access and geography. Second, such initial disadvantages embedded in geography, climate, policy biases or cumulative outcomes of historic accidents, can lead to regions failing to develop a self-enforcing economic dynamism. Thin markets with little backward and forward linkages, low purchasing power, weak skills of the labor force and of local administrations combine to make them unattractive for business. The challenge of such regions is to grow and converge with the other regions in the country.

1.4 In many ways, Balochistan is a prime example for the relevance of these ideas. Inherent geographical weaknesses led over the centuries to low population density. The modernization process, which transformed the country from a poor rural nation into a semi-industrialized economy, has not benefited all provinces equally. Pakistan's growth poles developed along the Indus river, leaving the other parts of the country as agricultural hinterland. A diversified economy in Karachi and Punjab's urban centers coexists with a less developed and more rural economy in the rest of the country. Combined with political neglect, this destined Balochistan to the *periphery* of economic and institutional development.

1.5 As Balochistan was at the fringes of the development process for far too long, knowledge about the province's assets, challenges, and national contributions remains partial and cast in preconceptions. As a result, there is little appreciation about the other, equally important, Balochistan that in many ways is at the *core* of Pakistan's growth strategy. The province is embracing the window of opportunity arising from national economic reforms and global integration to leverage its formidable resources and meet the challenge of development. First, Balochistan has unleashed reform due to the strong leadership as well as the tough lessons learnt from an eight-year drought and two-year fiscal crisis. Second, the good performance of the national economy has boosted public investments in the province to record levels. The provincial and federal governments have launched major uplift initiatives in economic and social sectors, invested in infrastructure to improve connectivity and initiated administrated change across all layers of government (Table 1.1). Third, just as Balochistan's Sui gas fuelled Pakistan's industrialization in the second half of the 20th century, its trade and energy ties with Iran, the Middle East and the rest of the world are supporting Pakistan's economic expansion today. In particular, boosting energy supply depends to a large degree on pipelines and transmission lines from Iran, Middle East, and Central Asia that pass through Balochistan; and scaling up national trade hinges largely on turning Gwadar into a viable, well connected port, as well as transforming Balochistan's natural riches in mining, fisheries, and agro-products into profitable exports. Combined with the admirable resilience and resourcefulness of Balochistan's people, these programs and projects can overcome the impediments that have held back provincial prosperity for decades.

Table 1.1: Pakistan's Poverty Reduction Strategy (PRS) and Balochistan

Seven Pillars of Pakistan's PRS	Opportunity for Balochistan
Pillar I: Macroeconomic Stability and Sectoral Drivers of Economic Growth	Exploiting the diverse natural resource base and moving up value-chain
Pillar II: Crafting a Competitive Advantage for Domestic and Global Markets	Developing the locational advantage
Pillar III: Harnessing the Potential of the People	Improving skills in support of growth
Pillar IV: Financial Sector Deepening and Economic Development	Expanding access to credit for enterpreneurs
Pillar V: World Class Infrastructure	Integration to overcome remoteness, increase market size and economies of scale
Pillar VI: Effective Governance and Management	Reducing cost of doing business and providing basic services with participation of people
Pillar VII: Targeting the Poor and the Vulnerable	Making economic development inclusive

Source: Ministry of Finance, Summary Report of Poverty Reduction Strategy Paper 2.

1.2 ROADMAP

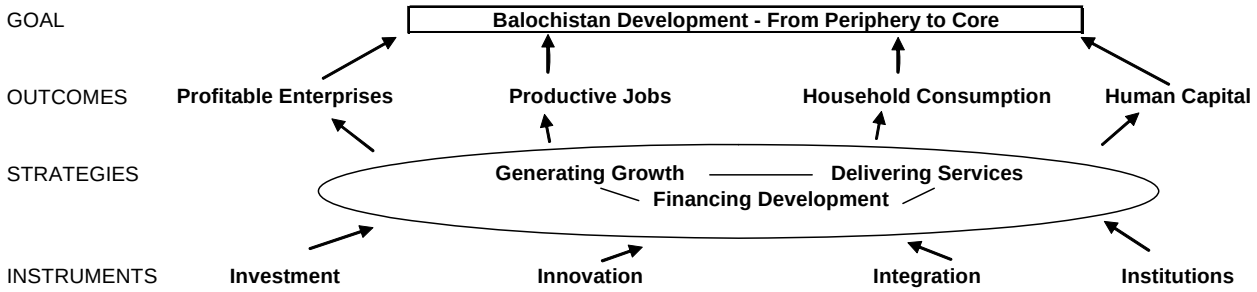
1.6 This report offers an empirical analysis of provincial economic development and the ways in which the provincial and federal governments, supported by donors, can help to foster it. It is organized around three topics: the stock taking of economic *outcomes* over the last decades; the *strategies* for inclusive economic development of generating growth, delivering service, and financing development in the future; and the *instruments* for today's economic policies to bring about the required changes. Specifically, the report (Figure 1.3):

(a) takes stock of Balochistan's outcomes on growth, employment, poverty and social development;

(b) conducts a thorough analysis of the three strategies of generating growth, delivering services, and financing development; and

(c) provides the four instruments of investment, innovation, integration, and institutions to bring about the required economic policy changes across the three strategies.

Figure 1.3: Framework of the Balochistan Economic Report



1.7 The five main findings of the report are as follows. First, there are good reasons to be optimistic about Balochistan's development. Provincial and federal reforms, the synergies between Balochistan's and Pakistan's development agenda in the areas of energy and trade, and the strong performance of the national economy present a unique opportunity to move Balochistan from the periphery to the core of economic development to the benefit of its people. Second, in order to overcome the challenges that held back provincial development for many decades, Balochistan should pursue a development agenda around generating growth, delivering services, and financing development. This approach can make sure that Balochistan's development path is inclusive, where the gains are shared across regions and population groups. Third, generating growth requires leveraging Balochistan's resource and locational advantages, deepening its capacity for value-addition, and strengthening the foundations for business activity. Fourth, delivering services depends on improving the public administration, making devolution more effective and scaling-up of basic services with innovative approaches involving the private sector and communities. Finally, financing development relies on a prudent management of provincial expenditures, strengthening the capacity for revenue collection, and advancing fiscal devolution.

1.8 The three strategies reflect three broad lessons from the development experience around the world. The *first* strategy "*Generating Growth*" is about fundamental change in economic structures, the movement of resources out of agriculture to services and industry, and about transformations in trade and technology. Since the most powerful and the central force for economic growth is the private sector, the creation of a good investment climate—one that encourages firms, both small and large, to invest, create jobs, and increase productivity—is at the center of this strategy. The strategy lays out a way for Balochistan to share Pakistan's ambition of sustaining growth around 7 percent per year. This requires developing the provincial

economy around four thematic thrusts: *(i)* exploiting the diverse natural resource base; *(ii)* developing the location advantage; *(iii)* upgrading the value chains associated with (i) and (ii); and *(iv)* strengthening the foundations of business activity. The fourth pillar includes law and order. Security issues are a direct obstacle primarily for the exploration and exploitation activities in natural gas. But these problems in selected districts affect the perceptions of potential investors for the entire province and thereby lower investments in other sectors as well. Skill development is another dimension of business activities, as Balochistan's labor force requires human capital to embrace economic opportunities. Among the 2.3 million provincial workers, some 1.4 million have no schooling at all, and only 70,000 practice crafts and related trades.

1.9 The *second* strategy "*Delivering Services*" is about changes to social life — in health and life expectancy, in education and literacy (to develops skills in support of growth), in population size and structure, in gender relations, and in social relations. For example, improvements in the status of women is essential to progress in a number of areas, including child well-being, family planning, labor force participation, and community empowerment. The challenge to policy is to help release and guide these forces of change. The strategy proposes measures to improve the effectiveness of the public administration at the provincial and local levels, to scale up basic services in education, health, water supply and sanitation, and social assistance to people, and to foster mechanisms for accountability. Social development will also require involving the private sector and communities in the delivery of services. One crucial aspect is social mobilization by creating agency and voice for poor people to become part of the development process.

1.10 Generating growth and delivering services require resources. Yet, public spending absorbs scarce domestic resources and imposes an excess burden of taxation that can get in the way of economic growth. While foreign aid flows are an essential cheap source of finance for developing economies, they are often small and can delay much needed policy change. Since Balochistan's development needs will always outstrip its revenues, the *third* strategy "*Financing Development*" emphasizes a careful prioritization and an effective management of provincial public expenditures as well as providing the fiscal space for local governments. It also highlights the need for upgrading the system of revenue collection as Balochistan's tax base expands with economic growth. These efforts will help to ensure sustainable fiscal positions which in turn are crucial to give confidence to firms in making risky production decisions. They will also promote local accountability by raising the discretion of local governments to respond to local needs.

1.11 The three strategies jointly help to make sure that Balochistan's development path is inclusive and the benefits of growth are shared across regions and population groups. This is not an automatic process, nor is it a process of "trickle down". It is not enough simply to assume that everyone will eventually gain if the economy continues to grow. A farmer who lacks access to a navigable road will go on struggling — until decision-makers act to rehabilitate the feeder roads and provide access to market centers. A girl who spends her days working at home rather than learning to read will have little to show for her country's economic expansion — until a school is setup in her village that gives children the opportunity to become literate. As the farmer and the girl gain the tools to participate in the economy, they can go on to contribute to and extend the country's growth run.

1.12 The strategy of generating growth contributes to inclusive development in two ways. It argues for the parallel development of Balochistan's diverse resource and locational assets for the benefit of different regions and occupations. And it makes the case for lifting rural livelihoods in support of the four-fifths of the population residing in villages by highlighting the need for connectivity, infrastructure and services in support of the rural economy. Similarly, the strategy of delivering services makes two contributions to inclusive development. It draws attention to the urgency of building human capital, which is linked to better family health and participation in society, higher productivity of farmers, workers and small-business owners alike, and thus higher growth. Human capital also endows people with the ability to gain well-enumerated jobs elsewhere and support the economy at home through remittances. In addition, the strategy

also underlines the need to reach remote areas of the province through community-based modes of providing education, health, and other services that reflect Balochistan's geographic, demographic and social realities. Finally, the strategy of financing development argues in favor of advancing fiscal devolution through a transparent transfer of provincial resources to lower levels. Just as the National Financial Commission Award is essential to ensure the delivery of basic public services across all provinces of Pakistan, an enhanced Provincial Financial Commission Award is vital to ensure the delivery of basic public services across all districts in Balochistan.

1.13 Implementing the three development strategies will require differentiation of policies and programs across the different regions of the province. This report focuses on a sectoral approach, which matches roughly the structure of policy making of provincial government and thereby tends to understate differences across regions. The report leaves the task of developing sub-provincial development strategies for future work. It remedies this weakness by highlighting, whenever relevant, geographic differences. This will be especially important for the discussion of growth and rural livelihoods in Part II.

1.14 The three strategies are informed by four instruments to good economic policies. First, *investment* is at the heart of the development process, as higher living standards come about with the accumulation of physical and human capital. Public investment is required in areas such as floodwater irrigation and drought mitigation, primary education and rural roads, where the private sector would undersupply services due to lack of funds or inclination (Box 1.1). Such investments, if done well, will not only be equitable, but can also crowd-in private investments, that is, make feasible fresh private investment in places where it earlier was not. Private investors are unlikely to go into areas without roads, electricity, or credit facilities. However, if done poorly and in the wrong places, public investment — whether by the federal or provincial governments — can also crowd-out private investment by pre-empting scarce domestic savings and imposing administrative control. It then becomes a tax on private entrepreneurship as the engine for growth, jobs, and household income. And the private sector is essential for Balochistan's development prospects, as it allocates resources typically more efficiently than the public sector and helps to reduce the demands on an already overstretched public sector.

Box 1.1: Basic Services – a Public Responsibility

By financing, providing, or regulating the infrastructure, education, health and other basic services, the Government of Balochistan demonstrates its responsibility for the well-being of their people. Why? First, these services are replete with market failures—with externalities, as when an infected child spreads a disease to playmates or a farmer benefits from a neighbor's ability to read. So the private sector, left to its devices, will not reach the level of health and education that society desires. Second, basic infrastructure, health and education are considered fundamental rights. No matter how daunting the problems of delivery may be, the government cannot walk away from this responsibility. The challenge is to see how the public sector —in collaboration with the private sector, communities, and outside partners—can ensure basic services for all their citizens.

Source: Adopted from World Bank (2003)

1.15 Second, the success of such investments depends on strong and practical *innovation*. Development is about the generation and application of good ideas, about what works and what does not under local circumstances (Stern 2002). Balochistan covers nearly half of the land area of Pakistan, yet accounts only a twentieth of the country's population and one twenty-fifth of the country's economy. Development policies have to be adjusted to Balochistan's defining characteristics of remoteness and geographical diversity. Whilst there are basic principles of development strategy, no one size fits all. Models and plans developed for Pakistan's other provinces, be it the emphasis of canal irrigation in the water sector or the infrastructure and staff intensive structure of health care delivery, have to be modified to fully reflect these conditions. Innovation requires openness to new ideas and instruments, and going beyond activities that have succeeded

in the past. One area of innovation is public-private partnerships. When procuring new infrastructure, such as roads or public buildings, the government has a choice between public and private financing—that is, between paying for the investment itself and choosing a private company that pays for investment in return for payments from infrastructure users or the government. If the public-private partnership between the government and the firm is well designed, private financing may lower costs or increase revenue. The Government of Pakistan is seeking to increase the role that public-private partnerships play, for example as part of the programs to improve the National Trade Corridor. Another area of innovation is service delivery. Publicly funded government provision is only one of many modes of service delivery, and in many cases not the best one. Fortunately, as we will highlight in this report, the Government of Balochistan has already embraced innovative initiatives in service delivery and other areas.

1.16 Third, moving from periphery to core requires *integration* both internally within the province, as well as externally with Balochistan's neighboring provinces and countries. Remoteness increases transport cost, which in turn segments markets and reduces the economies of scale and specialization for the private and public sectors. Since problems arising from remoteness are mediated mostly through transport, Balochistan has in recent years rightly paid special attention to this sector. These investments can also help in bringing about urbanization by facilitating mobility. Cities are an important driver of development, as they offer a skilled labor force, access to finance, close proximity to the public administration and policy makers, and, most importantly, powerful agglomeration economies through strong forward and backward linkages to input and output markets. Last but not least, improvements in cross-provincial and cross-border infrastructure can facilitate private trade as an engine of growth. Pakistan opened its trade borders to the world in the 1990s and shifted away from import-substituting strategies. Balochistan can now leverage its strategic location to become a trading center linking Pakistan's industrial hubs with the energy rich regions of Iran and the Middle East as well as Central Asia.

1.17 Fourth, another important lesson of the global development experience is the essential role of *institutions*. The state is not a substitute for the market, but a critical complement. Government action is crucial to foster an environment where contracts are enforced and markets can function, basic infrastructure works, adequate health, education and social protection are provided, and people are able to participate in decisions which affect their lives. The failures of economic and social policies in Balochistan and elsewhere underscore the need to strengthen the institutional accountability between users, providers, and policymakers (World Bank 2003). For example, when faced with disappointing education and health outcomes, it is tempting to recommend a technical solution that addresses the proximate cause of the problem. Why not give vitamin A supplements, de-worm schoolchildren, and train teachers to be more effective? Why not develop a "minimum package" of health interventions for everybody? Although each suggestion has merit, simply recommending them does not address fundamental institutional problems that preclude their adoption. Adopting appropriate solutions and adapting them to local conditions can involve two types of measures: building *capacity* and designing institutions that underpin accountability and participation; as well as changing *incentives* facing policymakers, providers, and citizens. Rigorous monitoring and evaluation of innovations or experiments are part of the latter category. They lead to more precise and effective lessons and strong evidence to convince others to follow success. In this way, the power of evidence becomes an agent for change (Stern 2002).

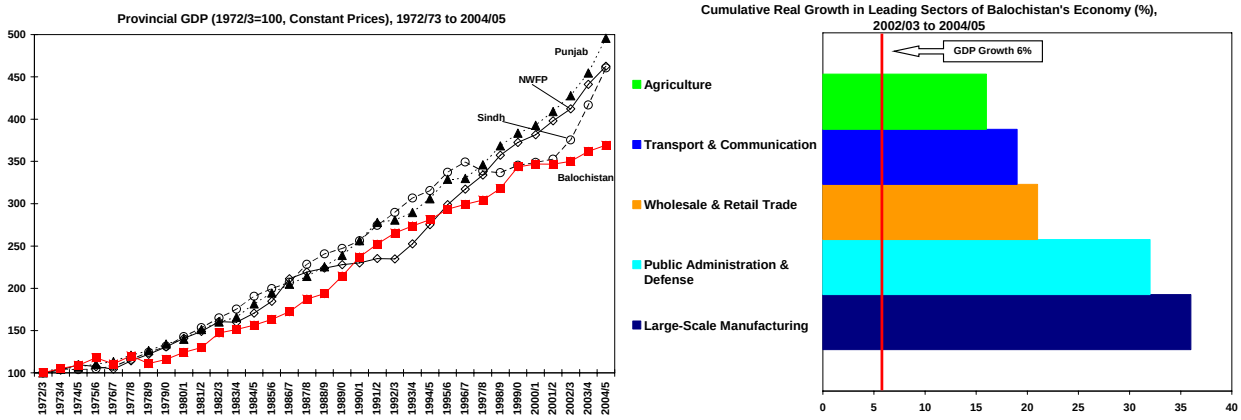
1.18 These four instruments of investment, innovation, integration, and institutions form the basis for the policy responses to overcome old, long-lasting challenges as well as to embrace new opportunities for Balochistan's development.

1.3 TAKING STOCK

1.19 The principal strengths of Balochistan's economy are natural resource based: mines and minerals, fruit and crops, livestock and fishing. While the economy lacks diversification at the local level, the distinct ecological systems in different areas — flood-plains, uplands, and deserts to the coastal area — lead to a considerable variety at the provincial level. Balochistan's agriculture focuses on non-staple and high-value products, suitable for the water-scarce high-altitude environment, in addition to crop cultivation in the canal-irrigated districts in the northeast close to the Indus Basin. The northern area specializes in horticulture; the central and western districts engage foremost in livestock rearing, and the coastal belt relies on fishery. In addition, rich mineral deposits, such as coal, copper, gold to natural gas, are scattered around the province.

1.20 Balochistan has the weakest ***long-term growth*** performance of all provinces. From 1972/73 to 2004/05, the economy expanded 2.7 times in Balochistan, 3.6 times in NWFP and Sindh, and 4.0 times in Punjab (Figure 1.4). The growth divergence has widened historic income differences and Balochistan's per capita income level of $400 in 2004 was only two-third of Pakistan's level. Balochistan's rate of structural change and urbanization was also lower than elsewhere. Yet, Pakistan's five-year economic recovery has improved Balochistan's growth prospects. Its recent upswing is broad-based, and the economic uplift initiatives and transport investments are accelerating the process of urbanization.

Figure 1.4: Balochistan has the weakest long-term growth record, but the ongoing recovery is broad-based

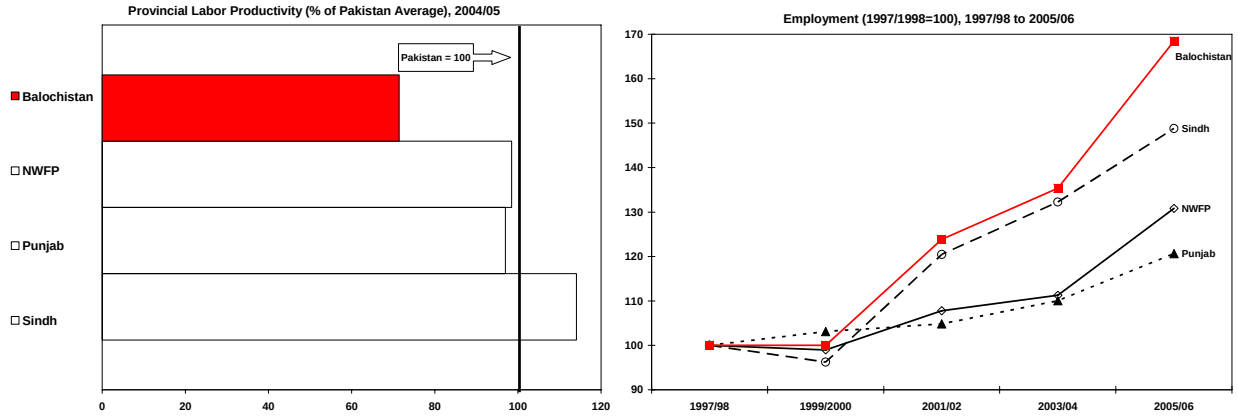


Source: World Bank

1.21 The ***quality of employment*** is worse in Balochistan than in other provinces. Workers produce about one quarter less than workers in NWFP and Punjab, and over one third less than workers in Sindh (Figure 1.5). The labor market is marked by duality, as less than one in five workers holds a regularly salaried job, of which the private sector supplies just one in four. And while the job quality is worse than elsewhere, workers in Balochistan migrate less other workers. The projected increase of Balochistan's population from 7.8 million in 2005 to 11.1 million in 2025 poses major challenges for policymakers in terms of providing education and employment opportunities. However, Balochistan's labor market is already improving noticeably. The economic recovery was labor-intensive, generating 900,000 jobs in the last eight years, and the share of workers with some education increased by 7 percent from 1999/2000 to 2005/06. Wage increases have benefited workers on regular jobs, are likely to spill over to irregular jobs due to rising labor demand from construction projects and agriculture. In addition, labor reforms hold the promise of reducing barriers to regular jobs. Improved connectivity will also facilitate mobility of labor. The demographics suggest that the labor force could rise from 4.1 million in 2005 to 7.2 million in 2025. Based on the historic employment elasticities, creating an additional 158,000 jobs annually for these workers should be well

within reach with economic growth of at least 6.5 percent. As the schooling of the future labor force is likely to be more egalitarian, a rising labor force participation rate could become an important force for provincial convergence.

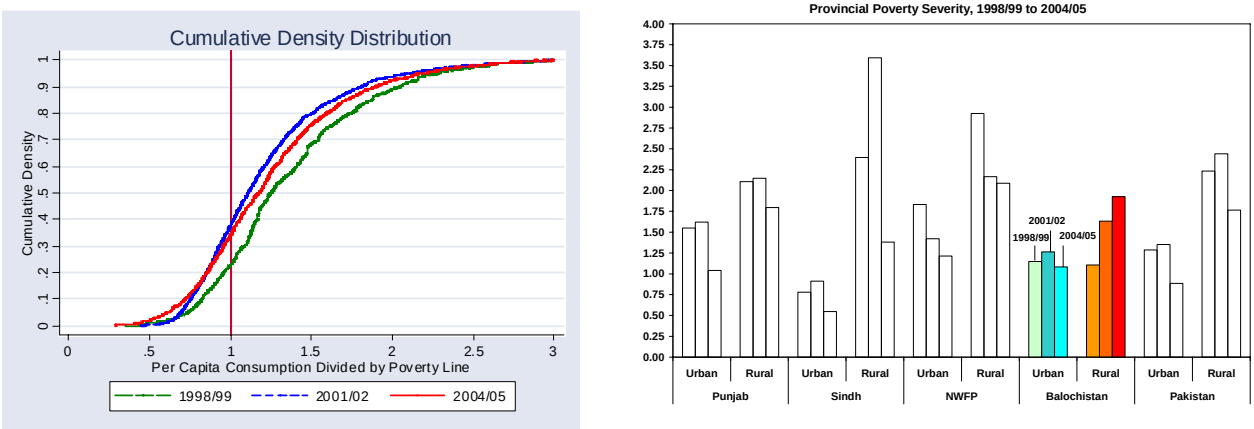
Figure 1.5: Balochistan's workers are less productive than workers of the other provinces, but job creation increased noticeably in this decade.



Source: Labor Force Survey

1.22 The number of poor people of rural Balochistan increased from 1.5 million people in 1998/99 to 2.1 million people in 2004/05. While *poverty* rose in rural areas, it declined in urban areas (Figure 1.6). Manufacturing, government spending and services, Balochistan's main drivers of the economic recovery, have generated incomes in cities, but less so in villages. The principal challenge going forward is to ensure that rural households share in the growth experience, as in the other three provinces. And there is a reason for optimism. Most importantly, the drought, which depressed economic activity in rural Balochistan, finally ended in 2005. This supported the sharp rise in labor force participation in rural areas from 2003/04 to 2005/06. More public resources, combined with greater efficiency and equity of spending, should further contribute to lower poverty.

Figure 1.6: Balochistan's poor people in rural areas have not yet benefited from the economic recovery.

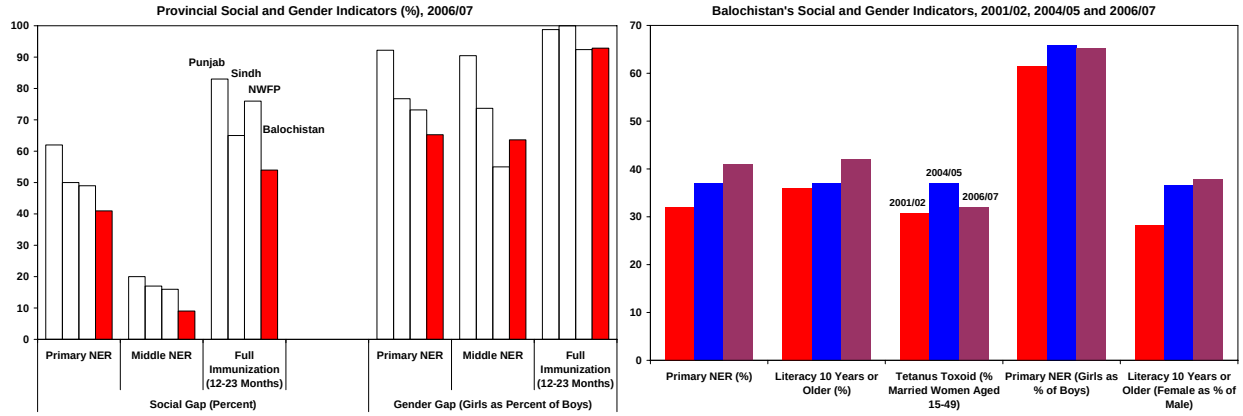


Source: PSLM

1.23 In a country known for its social gap, Balochistan stands out as the province with the weakest ***social development***. It scores lowest in nine of the 10 key indicators for education, literacy, health, water and sanitation for 2006/07. For example, less than two in five children aged 5 to 9 are enrolled in primary

school (Figure 1.7). It also stands out as the province with the worst record on gender equality. Yet, Balochistan has succeeded in narrowing the social and gaps from 2001/02 to 2006/07. Enrolment, literacy and immunization rates improved, as has access to tap water and flush toilets. The gender gap also narrowed from 2001/02 to 2006/07. For example, the number of girls of primary school age enrolled in primary school as a share of the number of boys increased by 3 percent over the five years. Progress extended to the labor market. Female employment grew by from 70,000 in 2001/2 to 260,000 in 2005/06, mostly due to the rebound in agriculture.

Figure 1.7: Balochistan's social and gender indicators are low but improving.



Source: PSLM

1.24 The quest for Balochistan's economic development is challenging. We need to look no further than the province's own record on growth, employment, poverty reduction, and social development to appreciate the scale of the challenge. Yet, today's prospects offer the best opportunity in many decades to put the province on a path towards prosperity (Table 1.2). One reason for optimism is the province's own reform initiatives in areas of subnational responsibilities, which include the services for mines and minerals, labor regulation, agriculture, irrigation, intra-provincial transport, education, health, water supply and sanitation. Another reason is the improved design and implementation of policies coming from Islamabad, which have a large bearing on Balochistan's economic and social performance. Over the last four years, a good national economy has led to a greater resource flow through the NFC Award from the center to the province, as well as scaled-up central investments, such as in Gwadar port, the expansion of the national highway network, the proposed construction of the Iran-Pakistan-India pipeline, or the Kachhi canal irrigation project. In addition, national trade policies have contributed to closer ties between Pakistan, Iran and Afghanistan. Finally, as Pakistan's prospects have improved overall, there is a better change for progress on a third set of issues that have to be tackled jointly by the federal and provincial government. They include the sharing of national water resources and the inter-governmental fiscal relations.

Table 1.2: Balochistan's stock taking of challenges and opportunities across four dimensions

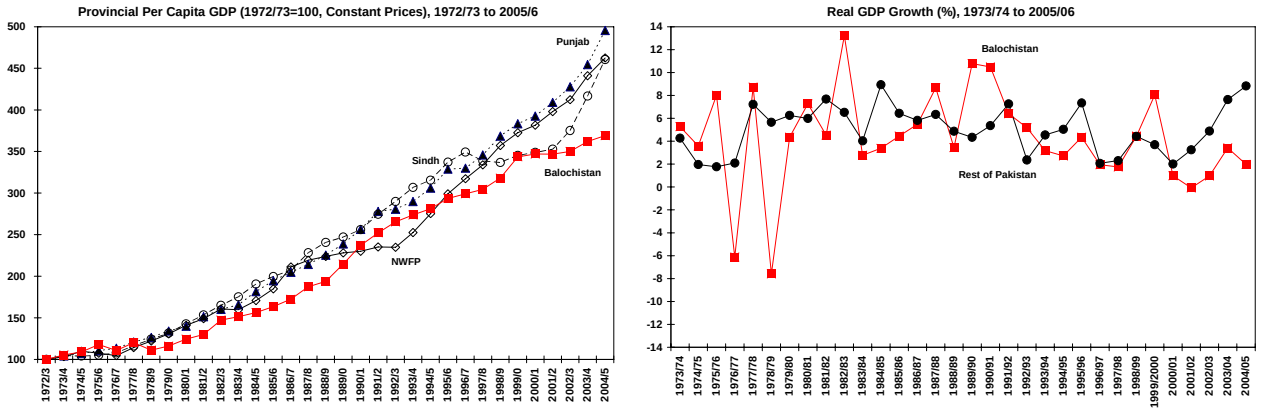
	Challenge	Opportunity
Growth		
1. Growth	Low growth	Improved outlook
2. Convergence	Divergence from other provinces	Growing economic linkages
3. Structural Change	Slow structural change	Broad-based economic recovery
4. Urbanization	Low urbanization	Agglomoration through economic initiatives
Employment		
1. Productivity	Low labor productivity	Labor-intensive recovery
2. Quality	Low quality jobs	Rising skill levels
3. Duality	Scarce wage jobs and abundant informal jobs	Rising formal sector wages
4. Migration	Low migration in the past	Greater connectivity in future
5. Demography	Large population growth	Large labor force growth
Poverty		
	Worsening poverty	Check is in the mail
Social Indicators		
1. Social gap	Worst social indicators	Declining social gap
2. Gender gap	Worst gender indicators	Declining gender gap

Growth

1.25 *Challenge #1 (Growth):* Balochistan has the weakest long-term growth performance of all provinces. Since 1972/73, the annual growth rate of 4.2 percent in Balochistan was 0.7 percent lower than in NWFP and in Sindh, and 1.0 percent lower than in Punjab (Figure 1.8, left panel).[1] Since Punjab accounts for over half of Pakistan's value added, Balochistan growth gap with the rest of Pakistan was 0.9 percent. By compounding the impact from one year to the next, such differences in growth, when persistent over long periods of time, lead to large disparities in the magnitude of the economy. From 1972/73 to 2005/06, the provincial economy expanded 2.7 times in Balochistan, 3.6 times in NWFP and Sindh, and 4.0 times in Punjab. Overall, the size of the economic pie increased 110 percent more in the rest of Pakistan than in Balochistan.

[1] The provincial GDP figures combine estimates from Bengali and Sadaqat (2006) for 1972/73 to 1990/91 with the World Bank's calculations for 1990/91 to 2004/05.

Figure 1.8: Balochistan has the weakest long-term growth record in spite of the recent growth spur



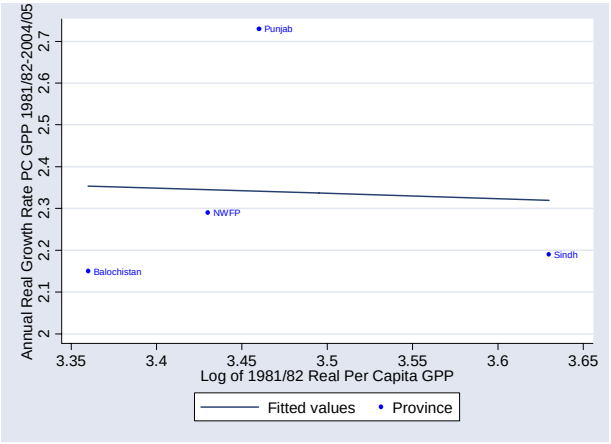
Source: World Bank

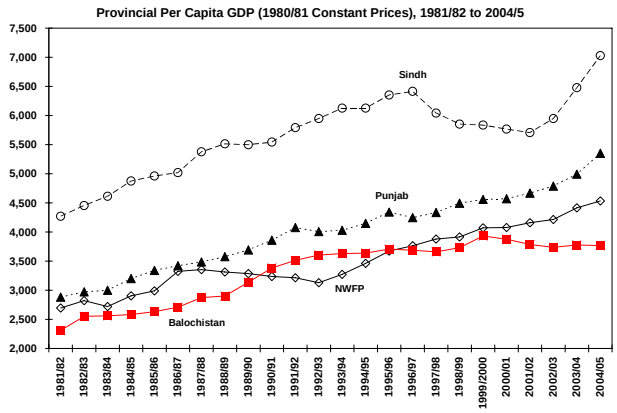
1.26 *Opportunity #1 (Growth):* Pakistan's recent recovery has improved Balochistan's growth prospects. Over the last three years, Pakistan's growth reached 7.1 percent, about 2.2 percent above its long-term growth average. On the back of the strong performance of the Pakistani economy and the end of a severe drought, Balochistan's economy has resumed its growth (Figure 1.8, right panel). But is this only a short-lived growth spur, brought about through the massive inflows of capital and remittances from allies, donors and Pakistanis after 11 September 2001, or does it reflect a permanent shift to a higher growth projectory? Two factors suggest that Pakistan's growth medium-term outlook has indeed improved fundamentally. First, the recent changes have been achieved in a fiscally responsible manner — public debt to GDP ratio has fallen from 89 percent in 2000/01 to 55 percent in 2005/06, the consolidated deficit of the government has declined from 6.2 percent of GDP in 2001/02 to 4.2 percent in 2005/06, and fiscal space (government revenues minus debt servicing) has increased from 8.7 percent of GDP in 1999/00 to 11.9 percent in 2005/06. Second, Pakistan has embarked on broad based reforms to strengthen the foundation for growth. They include measures to reduce the cost of doing business, encourage productivity of labor and innovation, to invest in public infrastructure and education and health, and improve the quality of service delivery. As we will highlight in this report, some of these initiatives made Balochistan's economy more competitive.

1.27 *Challenge #2 (Convergence):* With Balochistan's growth lagging behind the rest of Pakistan, its per capita income level has diverged from those of other provinces. The left panel of Figure 1.9 displays the convergence challenge. It plots the real per capita provincial GDP average growth rate for the four provinces from 1981/82 to 2004/05 against the log of real per capita provincial GDP in 1981/82. Balochistan ranks lowest on the horizontal axis, as it was the poorest province in 1981/82. It also ranks lowest on the vertical axis due to the weakest growth performance. The Balochistan population totalled 4.5 million in 1981/82 and 7.8 million in 2004/05, implying an annual population growth rate of 1.7 percent. By contrast, the population in the rest of Pakistan increased from 80.1 million to 143.5 million over the same period, equivalent to an annual population growth rate of 1.8 percent. Taken together, the GDP and population growth rates imply that Balochistan's per capita income grew annually by 2.1 percent, compared to 2.5 percent for the rest of Pakistan (Figure 1.9, right panel). There was little overall provincial convergence: as the average growth rate increased barely with the initial income level of a region. Similarly, due to geographic barriers and structural differences in the economy, the correlation of Balochistan's per capita growth rate with the one of the rest of Pakistan was only 0.07 over the entire period, compared to 0.20 for NWFP, 0.33 for Sindh and 0.45 for Punjab. Low historical income levels, weak growth and lack of convergence translate into a low income level and a large income gap today. According to the World Bank's Atlas method, GDP per capita in 2004 amounted to $410, compared to $480 for NWFP, $580 for Punjab, $760 for Sindh, and $600 for Pakistan overall. Put differently, while Balochistan

covers around 44 percent of Pakistan's landmass and has a population share of five percent, its 2004/05 GDP share was no more than 3.5 percent. In the global context and taken as a country, Balochistan ranks 41st out of the 135 countries with available data in terms of per capita GDP growth, and 148th out of 175 countries in terms of 2004 GDP per capita level.

Figure 1.9: Balochistan's per capita income level has diverged from the other provinces

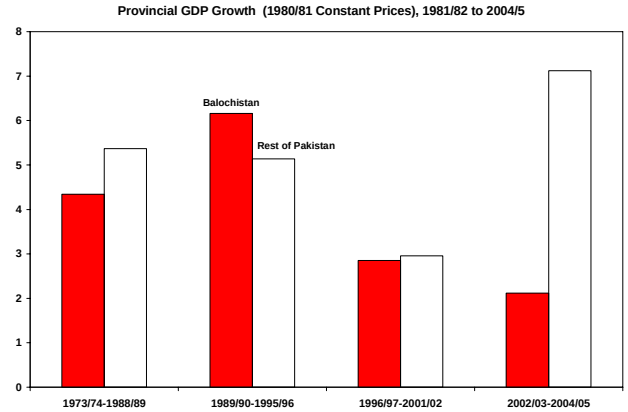


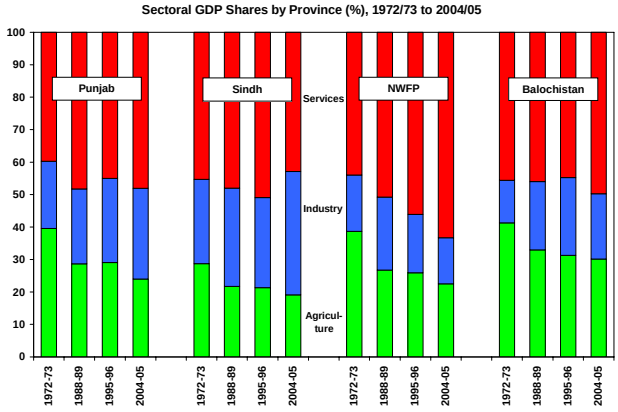


Source: World Bank

1.28 *Opportunity #2 (Convergence):* While Balochistan experienced large variations in the growth from one year to the next, its average rate of expansion matched the one in the rest of Pakistan reasonably close over growth periods in the past. The left panel of Figure 1.10 groups Balochistan's growth path into four episodes. Apart from the latest recovery, GDP growth was no more than one percent different to the rest of Pakistan. Balochistan's delayed economic upswing from 2002/03 to 2004/05 is foremost related to the drought, which has now ended. Fortunately, as strong trade and energy ties with Middle Eastern and Asian countries are becoming more central to Pakistan's national growth strategy, and the transport infrastructure improves, the linkages of Balochistan's economy with Pakistan's other provinces are set to grow.

Figure 1.10: Balochistan's economic growth fell behind Pakistan's growth mainly in the second half of the 1990s, even though structural change was slower.



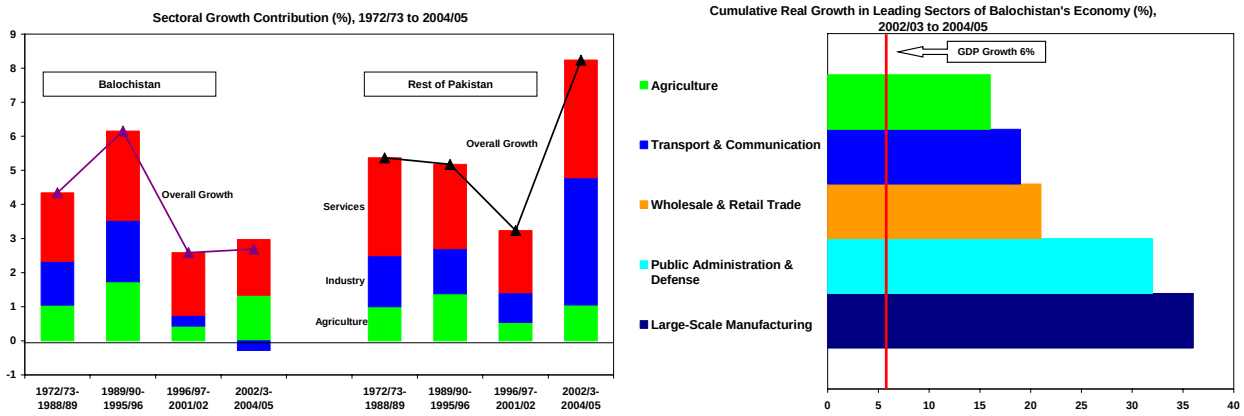


Source: World Bank

1.29 *Challenge #3 (Structural Change):* Economic growth typically brings about structural change in the sectoral compositions of output. One of the stylized facts of development, postulated as far back as 1939 (Fisher 1939 and Clark 1940), is that it comes with shifts in output from the primary (agriculture) to the secondary (manufacturing, mining, and construction) and the tertiary sectors (services). Structural change

in Balochistan proceeded slower than in the other provinces (Figure 1.10, right panel). Unlike in Punjab and Sindh, industry failed to take off over the last decade. With 30 percent of Balochistan's output generated in the primary sector, economic growth will continue to depend on the vagaries of weather in future (Figure 1.11, left panel).

Figure 1.11: Growth depends on agriculture but the latest recovery is supported by all three sectors

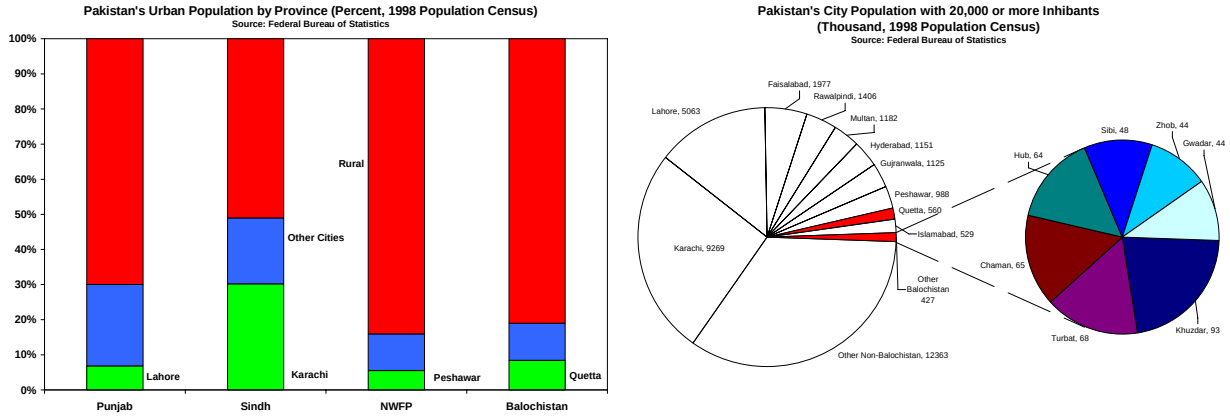


Source: World Bank

1.30 *Opportunity #3 (Structural Change)*: While the importance of agriculture remains central, the recent recovery is driven also by other sectors. Since 2002/03, large-scale manufacturing — which accounts for one sixth of the industrial sector that declined overall — expanded by 36 percent, public administration by 32 percent, wholesale and retail trade by 21 percent, transport and communication by 19 percent, and agriculture – covering from the drought – by 16 percent (Figure 1.11, right panel). Wholesale trade, manufacturing and public spending have also been the growth drivers for Pakistan's recovery over the last years.

1.31 *Challenge #4 (Urbanization):* The weak dynamism of Balochistan's enterprises is linked to the slow growth of the population share living in cities and towns. Urbanization is a territorial response to an economic shift away from agriculture, associated with features like division of labor, advanced production technology, variety in goods and services traded and population density and diversity. Across the world, densely-populated urban areas have been a force behind development. By international standards, South Asia's levels of urbanization are low and rates of urbanization are slow. Within South Asia, Pakistan has traditionally been, and still is, the most urbanized country. However, over the last few decades, Pakistan had a lowest rate of urbanization of any South Asian country with the exception of Sri Lanka. Pakistan's slow urbanization is linked to higher fertility in rural than urban areas, the reliance on agriculture for food security, as well as a cautious policy approach toward urbanization. As the rate of urbanization in Pakistan has slowed down, the vast differences in the level of urbanization across provinces have remained. The share of the population living in cities in 1998, the time of the last population census, was almost half in Sindh and close to one-third in Punjab, but less than one-fifth in Balochistan and NWFP. While Balochistan accounts for 5 percent of Pakistan's population, it represents only 3 percent of Pakistan's urban population. In addition, just like in Sindh, urban life in Balochistan is dominated by the provincial capital, which accounts for almost half of all urban dwellers (Figure 1.12). Quetta, listed nationwide ninth by population size, is Balochistan's only city among in Pakistan's top 50 cities. The towns of Khuzdar, Turbat, Chaman, Hub, Sibi, Zhob, and Gwadar ranked in 1998 no higher than 55 to 128, although Gwadar would have moved up in position due to the strong, port-related population growth since the late 1990s.

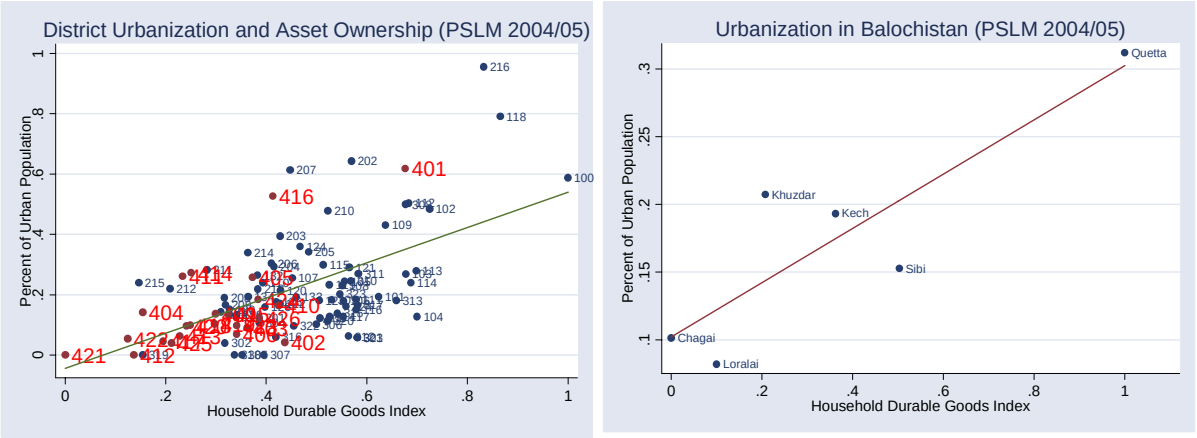
Figure 1.12: Balochistan's urban life is dominated by its provincial capital Quetta



Source: Federal Bureau of Statistics, Population Census 1998

1.32 Cities like Karachi, Lahore, Faisalabad or Multan, located in and around Pakistan's national north-south trade corridor, offer strong advantages for enterprises compared to other regions. They include easy access to export channels, lower transport costs, better utilities, higher labor productivity due to a skilled labor force, a more developed financial sector, close proximity to the public administration and policy makers, and powerful agglomeration economies through dense forward and backward linkages to input and output markets. In addition, in spite of high rents, small firms also cluster in large cities, where they benefit from diversified market niches, mobile labor supply, good infrastructure and services and proximity to input suppliers and large firms. While these cities are vital economic growth poles for Pakistan, they are also a structural hindrance for the development of outlaying regions such as Balochistan. They typically become the center for both economic and social services, reinforcing disparities between the largest cities and other localities. Their strong pull factor can undermine the development of thick markets and institutional capacity in far-flung areas (Henderson 1988 and Krugman 1995). While the urban growth in mega cities produces its own challenges, such as congestion, firms in need of large plant sites or easy transport reside typically near the fringe of the large cities. These localities share some of the agglomeration advantages of the mega cities, yet they avoid some of the disadvantages, especially the high cost of land. The flipside of the prosperity of the large cities along the Indus river is the low economic base of Balochistan's districts. With the exception of the districts of Quetta and Gwadar, the urban population share of Balochistan's districts is less than 30 percent. Economic opportunities are tied to the environmental endowments. Only Quetta offers a somewhat diversified economy with an active construction sector. And low urbanization is associated with low household welfare (as crude indicator as income derived from economic activity) across districts (Figure 1.13).

Figure 1.13: Low urbanization is associated with low household durables in Balochistan and the rest of Pakistan



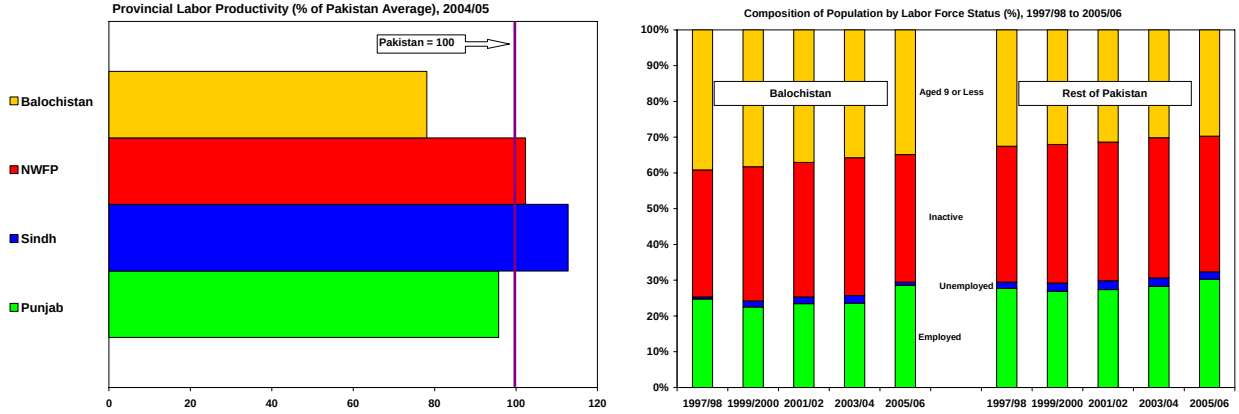
Source: PSLM

1.33 *Opportunity #4 (Urbanization):* Balochistan's economic uplift initiatives and transport investments are accelerating the process of urbanization. The development of Gwadar port, the Makran coastline and the mining and petroleum sectors, the investments in road and rail infrastructure, and the facilitation of cross-border trade in energy and other goods will provide a powerful impetus for a stronger agglomeration of Balochistan's economy. In addition, Pakistan's devolution reforms can also be an important stimulus for the creation of urban centers that respond effectively to local demands for public services as well as provide enterprises with low cost of doing business. Urban development is not just important from an economic point of view. Cities also provide domains for facilitating social change. While rural areas are often dominated by traditional social structures, urban areas can offer neutral spaces where inhabitants do not pay allegiance to particular individuals or groups, but have entitlements by the virtue of their citizenship. The extent to which these new spaces will be available to, and utilized by, the local communities in Balochistan, and contribute to social change in Balochistan, will depend on how they are managed in political terms.

Employment

1.34 *Challenge #1 (Productivity)*: Balochistan's labor productivity is lower than in the other provinces. Low living standards in Balochistan are to a large extent a reflection of the lack of well-paying jobs. Unsurprisingly, one of the most common complains from people in Balochistan is the absence of work that pays a decent wage. After all, what is central is employment growth such that Balochistan workers find gainful employment, have adequate productivity levels that are fairly compensated, and achieve reasonable income security for workers. The basic challenge is to raise labor productivity. The left panel of Figure 1.14 plots the provincial GDP per worker. Balochistan's workers are the least productive in the country today. In 2004/05, they produced about one quarter less than the average worker in NWFP and Punjab, and over one third less than the average worker in Sindh. Ultimately, lifting living standards in Balochistan will only be possible if productivity improves.

Figure 1.14: Balochistan's workers are less productive than those of the other provinces, but labor force participation increased sharply over the last years

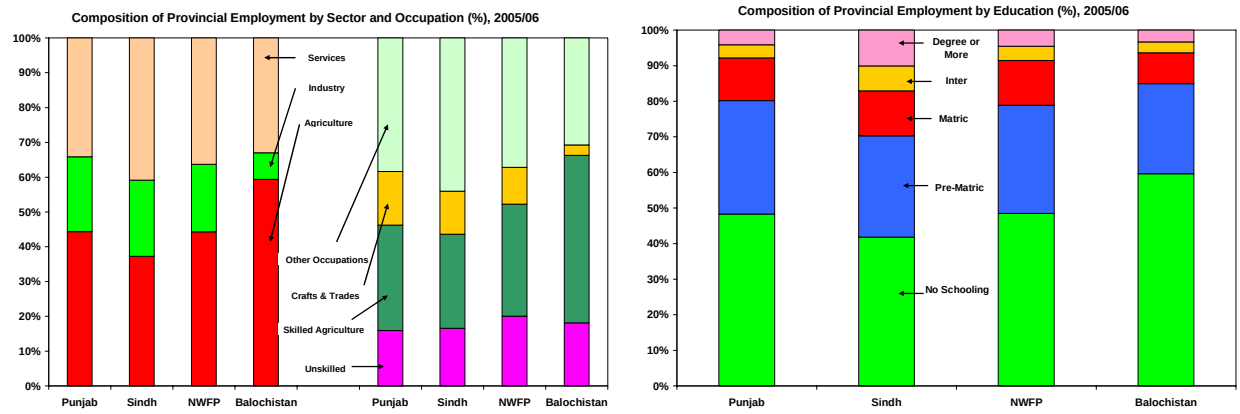


Source: Labor Force Survey

1.35 *Opportunity #1 (Productivity):* The economic recovery was labor-intensive, generating 900,000 jobs in the last eight years. Job creation is important from both an economic and a social point of view. Being without a job can undermine the self-esteem of workers and the well-being of their families. Traditionally, only a quarter of Balochistan's population was part of the labor force, compared to over 30 percent in the rest of Pakistan (Figure 1.14, right panel). While some of this difference was accounted by the higher population share of children, the labor force participation of the population of 10 years or older was still about 3 percent below the average for the other provinces. By 2005/06, this gap had fallen to less than one percent, as the growth spur over the last few years resulted in a dramatic job growth in Balochistan, far outstripping the one seen in the rest of the country. As we will see later, it came about at a time when families have started to invest more in education of their children, making them more productive workers later on. Given the heavy reliance of households on labor income for covering their daily necessities, higher employment holds the promise of lower poverty.

1.36 *Challenge #2 (Quality)*: The quality of jobs in Balochistan is worse than in other provinces. To understand why labor productivity is so low, we take a look at the characteristics of the employed ("workers")? Two factors combine to produce jobs of low quality of jobs. First, with economic development, people leave family work, primarily in agriculture, in search of better paid jobs in industry and services. Yet, in 2005/06, almost three in five workers in Balochistan, agriculture was still the sector of employment, by far the highest share of any province (Figure 1.15, left panel). To some extent, this reflects that large parts of Balochistan have a natural comparative advantage for certain forms of agriculture and livestock. More worrisome is that industry, which includes the sectors engaged in processing of crops and animal products, employed only 9 percent of all workers, compared to between 19 percent and 22 percent in the other provinces. Similarly, unskilled jobs, mostly in agriculture, and skilled jobs in agriculture made up about two thirds of all work in Balochistan but less than one in two in the rest of the country. Strikingly, only three percent of the workers practiced crafts and related trades, whereas 18 percent do so in Punjab. Second, the skill profile of Balochistan workers is the worst in a country known for its low education levels (Figure 1.15, right panel). Three in five workers have no schooling at all, compared to less than one in two in the rest of the country. No more than one in seven completed the matric level (grade 10), compared to more than one in five in the other provinces.

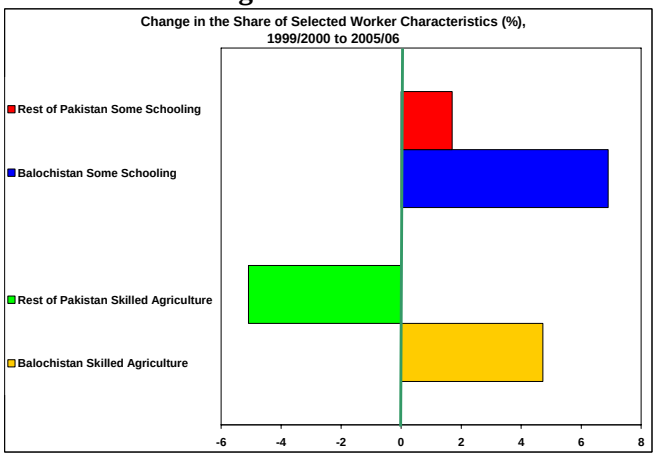
Figure 1.15: Balochistan's jobs are of low quality



Source: Labor Force Survey

1.37 *Opportunity #2 (Quality)*: The economic turnaround and government reforms over the last years have already left an imprint on the labor market. Even though the 2005/06 outcomes described above leave much to be desired, they represent a considerable improvement. Since 1999/2000, productivity within agriculture improved. While the share of agriculture in employment increased by 4 percent, the share of workers engaged in skilled agriculture rose by 5 percent (Figure 1.16). Some of these changes reflect an underlying improvement in the skill profile, as the share of workers with some education increased by 7 percent. These trends are especially remarkable, as in the other provinces the share of skilled agriculture declined and the level of skills increased less.

Figure 1.16: Jobs in skilled agriculture and skills of workers have grown

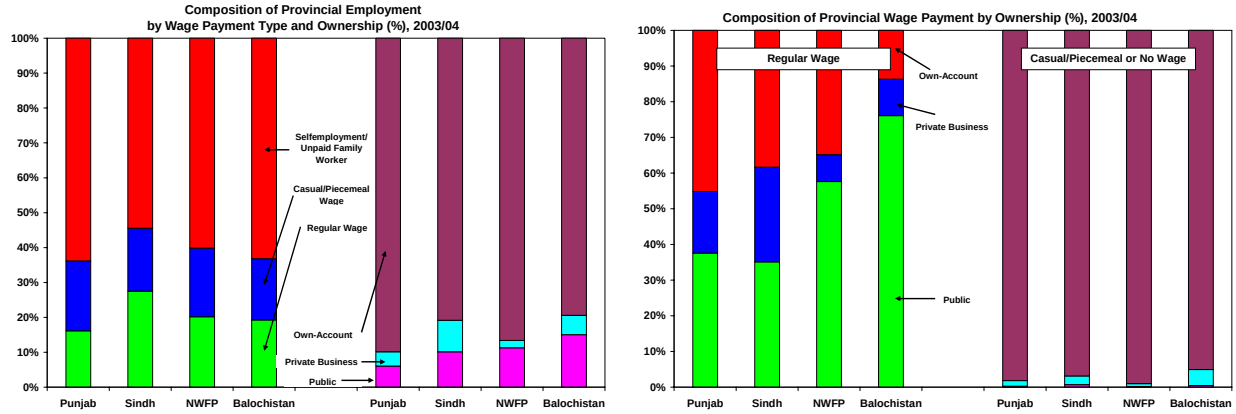


Source: Labor Force Survey

1.38 *Challenge #3 (Duality)*: Balochistan's labor market is marked by a stark duality. Two dimensions are worth highlighting: the scarcity of regularly salaried jobs, especially in the private sector; and the large, and growing, informal sector. First, the Balochistan labor market is centered on family businesses, yet few of the wage jobs are offered by the private sector. If people talk about jobs, they mean jobs that pay a wage. But less than one in five Balochistan workers received in 2003/04 regular fixed wages, while almost two-third were either self-employed and did not gain a set wage, or active as unpaid family worker (Figure 1.17, left panel). This division is similar in other provinces. More unusual is the high fraction of government jobs. In 2003/04, 15 percent of all workers were government employees in Balochistan, compared to only 7.9 percent in the rest of Pakistan. Since almost all government jobs provide a fixed income, more than

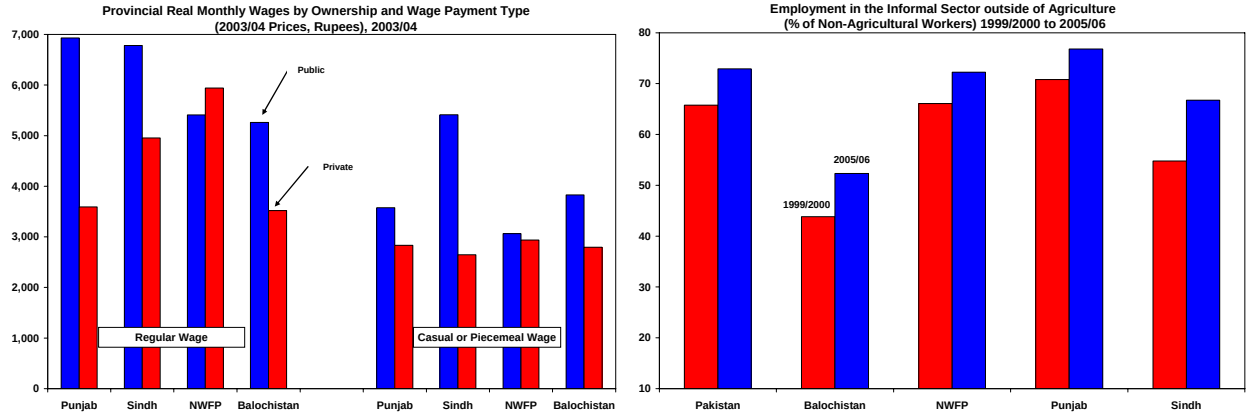
three-fourth of the regularly salaried jobs are offered by government, compared to only one half in the rest of the country (Figure 1.17, right panel). As in the rest of the country, wages in the public sector are far in access of those in the private sector, even though public sector salaries Balochistan are lower than in other provinces due to the lower skills of government staff. The heavy presence of public sector jobs in wage employment boosts the price of labor, and reduces the number of jobs offered, by the private sector (Figure 1.18, left panel). Second, informality is widespread and growing. Job security is a core concern for a large majority of workers outside of government. Informal workers are not covered by most labor regulations, labor protection, or social security laws. They often work long hours and receive no pension when old. More than one in two of all non-agricultural workers in Balochistan were employed in private enterprises with fewer than 10 workers in 2005/06. While this share was higher in the other provinces due to the smaller public sector, it increased by 20 percent relative to 1999/2000 in Balochistan compared to only 12 percent in the rest of Pakistan (Figure 1.18, right panel).

Figure 1.17: While public sector jobs pay regular wages, most workers hold own-account jobs



Source: Labor Force Survey

Figure 1.18: Public sector jobs set the wages for regular jobs, as informality outside of agriculture has increased

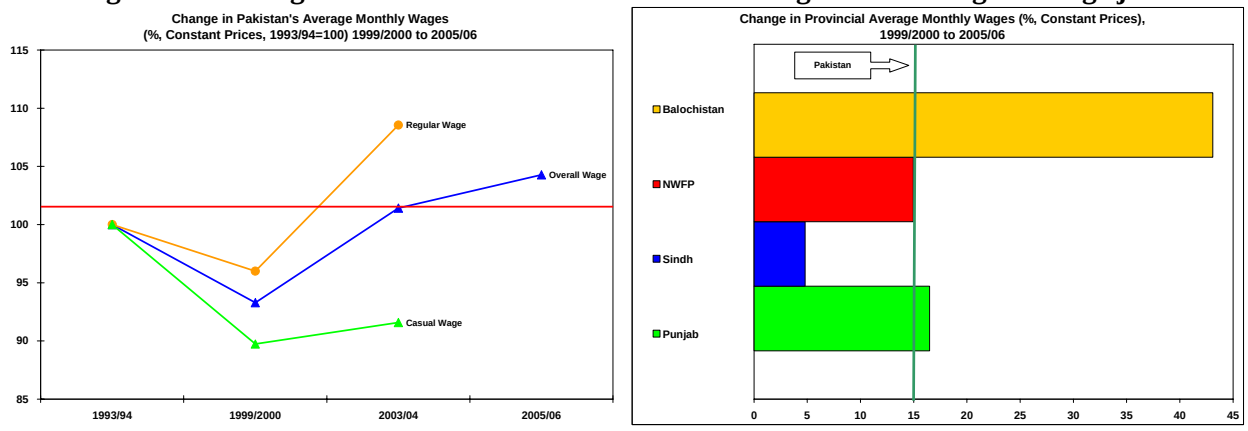


Source: Labor Force Survey

1.39 *Opportunity #3 (Duality):* Wage increases have benefited workers on regular jobs and are likely to spill over to irregular jobs. We have already pointed out how the expansion over the last years has not just added new jobs to the economy, but also improved the overall quality of employment. This has translated into higher wages, reversing the trend during much of the 1990s. Even though the increases in the real wage since 1999/2000 are distinctly more pronounced for jobs with regular pay, Pakistan's wages have also risen for casual wage jobs between 1999/2000 and 2003/04 (Figure 1.19, left panel). The rising labor demand

from construction projects and agriculture in Balochistan makes it likely that similar trends apply to this province. Overall wages continued to increase from 2003/04 to 2005/06, so it is likely that incomes of casual wage earners improved further. Balochistan's wage workers benefited especially from higher pay: wages increased by 43 percent in real terms since 1999/2000, compared to only 14 percent in the rest of Pakistan (Figure 1.19, right panel). Building on these achievements requires reducing the barriers of entry for workers to formal jobs. One requirement is to reform labor laws that impose undue burden on businesses. Pakistan stands out in international comparisons as a country with excessive labor regulations (World Bank 2006). To address this issue, the government is in the process of amending legislation to increase labor market flexibility. Another requisite is to ensure that all workers have basic school education – technical and vocational training can add to, but not replace the cognitive skills acquired from quality education. As discussed above, there is some progress on this dimension. Finally, the government intends to reform the existing vocational and technical training system to address concerns over fragmentation, quality, scale and lack of private sector involvement.

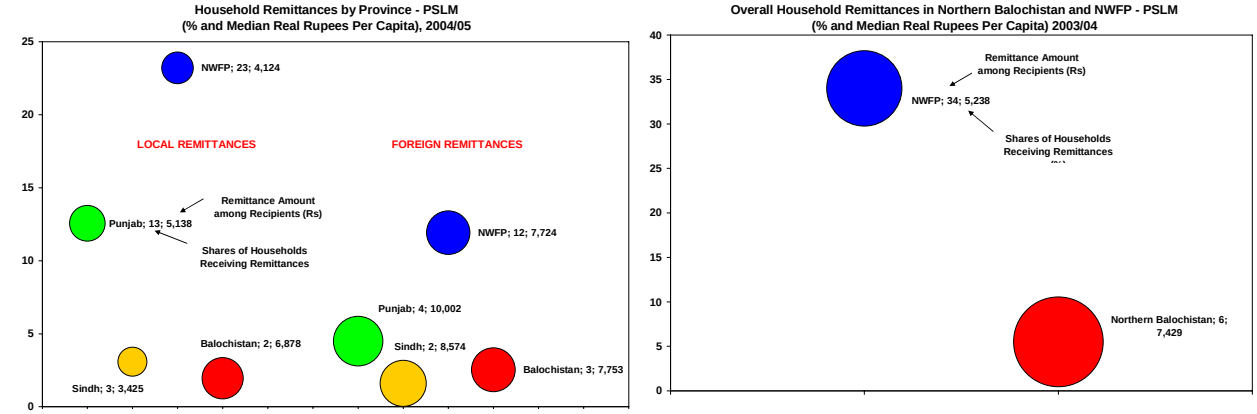
Figure 1.19: Wages have started to increase across for regular and irregular wage jobs



Source: Labor Force Survey

1.40 *Challenge #4 (Migration):* Workers in Balochistan migrate less than workers of other provinces. Better job opportunities and within-year variation in agricultural employment have for a long time fuelled economic migration in Pakistan. Since the early 1970s, Pakistanis have left their villages to seek employment in the oil-rich Gulf region as construction workers, or in transport, trade, and the service industry. While the historic connection between the Sultanate of Oman and the coastal region of Makran gave first rise to movements of people to Oman, international migration in Balochistan remained low compared to other provinces (Gazdar 2004). Equally, there is little permanent within-country migration, although temporary rural-urban migration is more prevalent. According to the 2003/04 labor force survey, out of the Pakistani inter-provincial migrants, only 8 percent originated from Balochistan, even though the economic centers reside in urban Punjab and Sindh. Similarly, according to the 2003/04 MICS, only 5 percent of households in Balochistan had a family member working in another province or oversees. As a result, workers remittances play only a minor role in boosting household incomes. In 2004/05, only one in fifty households received local remittances, and one in thirty foreign remittances, in Balochistan (Figure 1.20, left panel). For the few lucky recipient households, the impact on living standards can be considerable: the amount of monthly median remittances is as high as one third of per capita consumption.

Figure 1.20: Workers in Balochistan migrate less to other provinces than those of the other provinces



Source: PSLM

1.41 *Opportunity #4 (Migration):* Improved connectivity will facilitate mobility of labor. What accounts for low migration out of Balochistan in spite of the dearth of job opportunities within the province? In this context, a comparison of Balochistan's nine northern districts with the province of NWFP is instructive. The population in both areas is predominantly Pashtun. Yet, in 2004/05 only one in twenty households received local or foreign remittances in these parts of Balochistan, compared to one in three in NWFP (Figure 1.20, right panel). This suggests that remoteness and weak infrastructure are the main bottlenecks rather than cultural factors. Indeed, NWFP is an integral part of the national trade corridor, which links the ports of Karachi and Qazim in the South with the major cities and production areas in the North. The area handles 95 percent of Pakistan's external trade, contributes around 85 percent of national GDP, and manages 65 percent of total land freight. Fortunately, the government has launched a major investment drive to improve Balochistan's connectivity via sea and land routes. Two examples illustrate the scope of this agenda. First, the deep-sea port of Gwadar will provide a third trade portal to Pakistan and stimulate development in the south-west of Balochistan. Second, in fiscal year 2005/06, the National Highway Authorities spent almost one third of its development budget on Balochistan. The development of such infrastructure will not just facilitate factor mobility within and across provinces. Transport hubs will also over time become population clusters, as the economic activity and connectivity of these localities exerts a strong pull factor.

Box 1.2: Afghan Refugees in Balochistan

Since the start of conflicts in Afghanistan in 1979, millions of Afghans took refuge in Pakistan. In 2003, Pakistan and Afghanistan signed an agreement with the United Nations High Commission of Refugees to facilitate the return of Afghans. It reflects Pakistan's expectation that all Afghans would eventually repatriate, but safeguards the principle of voluntary repatriation under conditions of safety and dignity. The 2005 Census of Afghans in Pakistan found that some 2.4 million Afghan returned to their homeland since the defeat of the Taliban in 2001. It also estimated that some 3 million Afghan refugees still remained in Pakistan. More recently, Pakistan's National Database and Registration Authority collected information on some 2.2 million Afghan living in Pakistan from October 2006 to February 2007, granting them registration cards valid up to December 2009.

The ethnic ties between Balochistan's and Afghanistan's population made Balochistan a prime destinations for Afghan refugees. Projections based on the 1998 Population Census suggest that Afghan refugees represented some 10 percent of Balochistan's population in 2005, compared to 7.6 percent of NWFP's population. About 11 percent of Pakistan's Afghan refugees resided in Quetta district alone, attracted by deep-rooted systems of livelihood activities linking both sides of the border (CSSR 2006). Many refugees came initially to the refugee camps near Quetta, and later were attracted by the city's economic opportunities as aid support in the camps declined. The arrival of refugees from Afghanistan has played itself out as a Baloch-Pashtun issue in the internal politics of the province. The Afghan refugee population increased the numbers of ethnic Pashtuns and Hazaras at the expense of ethnic Balochis and Brahuis.

Demographic, economic and social factors have largely replaced conflict and insecurity as the main obstacles for the return of Afghan refugees. First, since the early years of the displacement from their homeland, one generation of Afghans has been born and own into adulthood in Pakistan. According to the 2007 registration report, some 74 percent were born since 1979 and have no memories or emotional attachment to Afghanistan. Second, many Afghans who have lived from more than two decades in Pakistan are unwilling to give to return voluntarily. Some 84 percent of registered Afghans said they have security, shelter, or livelihood concerns about returning home in the near future. Third, Afghan refugees have poor skills. Only some 29 percent have formal education. Children in refugee villages are taught an Afghan curriculum in Pashto or Dari. While this has helped to preserve the cultural identity and facilitate repatriation, it makes integration within Pakistan more difficult for those who stay for the longer-term. Equally, there were no significant secondary education opportunities in refugee villages in 2007 (Wilder 2006). Fourth, the low skills result in poor employment prospects. Only 20 percent of the Afghan refugees are active in the labor market, and nearly half as unskilled or daily wage laborers. Fifth, surveys suggest that Afghan refugees are often subject to harassment and extortion by state agencies.

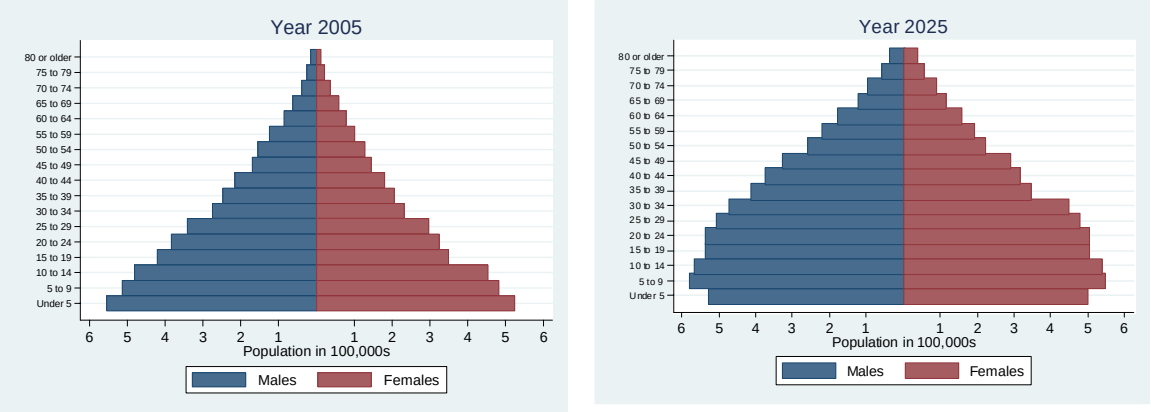
One implication of these findings is that there are many Afghan refugees who are likely to remain in Balochistan for good. This suggests that the governments of Balochistan and Pakistan, with the support of donor and relevant assistance agencies, should complement the focus on voluntary repatriation and humanitarian assistance with longer-term development programs, while keeping in mind the sensitivities of ethnic politics in the province.

1.42 *Challenge #5 (Demography):* Population growth is intimately related to the labor market. Steady increases in the labor force and employment are important drivers for higher national income. At the same time, high birth rates and very young populations make it more difficult to reduce poverty, invest in human resources, and pursue sustainable economic development. While there are question marks regarding the accuracy of population numbers – for example to what extent it correctly reflects the Afghan immigration during the 1980s (Box 1.2), there is no doubt that Balochistan's population has grown rapidly. Official estimates from the National Institute of Population Studies (NIPS) suggest that it grew from 4.3 million in 1981 to 7.8 million in 2005, or at an average annual population growth rate of 2.5 percent. The average number of births per woman over her lifespan in Pakistan declined from 6.8 in the mid-1980s to around 4.1 in 2001 (Feeney and Alam 2003). This figure is still high compared to that of Bangladesh (3.3), India (3.2), Iran (2.6) and Sri Lanka (2.1). The decline in the fertility rate indicates that the population growth rate has fallen, even though lower death rates would limit the reduction. Nevertheless, the population stayed remarkably young: almost two-fourth of population are below the age of 15. Large increases in population

are likely to persist for some time, as the high birth rates of the past imply large increases in the number of young adolescents in the future, in spite of a lowering of fertility rates. NIPS estimates that Balochistan's population growth will slow down to 1.3 percent by 2025, in line with trend for Pakistan's population growth (Figure 1.21). Even with this rather optimistic scenario, Balochistan's population would increase by 2025 to 11.1 million, representing an increase of 43 percent compared to today's population figure. The number of women in reproductive age (15 to 49 years) would increase from 1.7 million in 2005 to 2.9 million in 2020, or from 23.9 percent to 27.1 percent as a share among the total population. This poses major challenges for policy-makers in providing accessible education and employment opportunities as they reach working age.

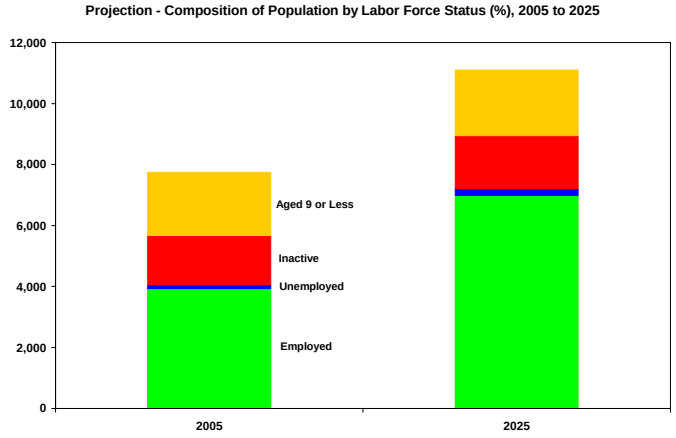
1.43 *Opportunity #5 (Demography):* There is also an upside to the demographic transition. Schooling of the current and future generations will be more egalitarian than of past generations. This will be an important force for provincial convergence over the long-term. Furthermore, a very high dependency ratio makes saving difficult for most working individuals and families. The problem should decrease as today's young adolescents reach working age, presenting the opportunity for reducing poverty – as long as there are jobs for them. Based on the performance over the last few years, the Balochistan economy should generate sufficient jobs for the entrants into the labor market, so that the unemployment rate would remain at no more than 3 percent. The NIPS projections imply that the number of Balochistan population aged 10 years or older will increase from 5.7 million in 2005 to 8.9 million in 2025. Assuming the labor force participation rate of this population group will continue in line with the trend of the last six year, this would result in an increase in the labor force from 4.1 million to 7.2 million (Figure 1.22). In other words, an additional 158,000 jobs will have to be created every year over this 20 year horizon. Projecting GDP growth of 6.5 percent, as achieved from 2002/03 to 2004/05, the employment elasticity of GDP growth would have to be no higher than 0.45. This target should be well within reach, as Pakistan's average elasticity over the two decades was around 0.55. Nevertheless, the challenge should not be underestimated. First, as indicated above, the slowdown in Balochistan's population growth rate might prove harder to come by than assumed for the projection. Second, much of the recent job generation relied on agriculture, partly driven by the recovery from a long-standing drought. Over the next two decades, this sector is likely to decline sharply as job provider, not least because the current farming practices are incompatible with sustainable water management. Instead, small and medium enterprises in industry and services would have to create jobs for productive workers.

Figure 1.21: Balochistan has a youthful population structure



Source: National Institute of Population Studies (NIPS)

Figure 1.22: A skilled labor force will be a powerful force of economic convergence



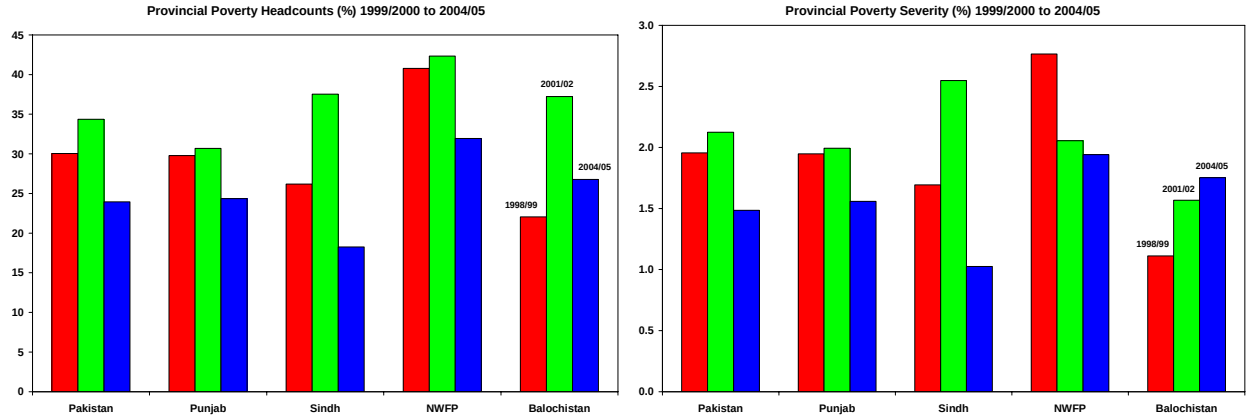
Source: World Bank

Poverty Reduction

1.44 *Challenge*: Poverty appears to be worsening. The accuracy of information on Balochistan is perhaps nowhere more disputed than in the area of poverty. Generating statistically representative information is made difficult by the vastness of the landmass, the low population density in most areas, the nomadic lifestyle in parts of the province and security concerns in selected districts. This raises the concern that household surveys like the Pakistan Integrated Household Survey (PIHS) under-sample far-flung or unsafe areas with low living standards, and hence underestimate the incidence of poverty in Balochistan relative to other provinces.[2] While it is beyond the scope of this report to investigate such biases in detail, the recent release of the 2004/5 Pakistan Social and Living Standards Measurement Survey (PSLM), with larger sample size to ensure district representativeness for non-consumption indicators, presents a welcome opportunity to re-examine Balochistan's poverty statistics and their correlates. In any case, whatever the worries about household surveys painting too rosy a picture on poverty, they suggest that poverty in Balochistan has increased and become statistically indistinguishable from poverty in NWFP, the province with traditionally the highest measured poverty (Figure 1.23). And this is the case even though the government's poverty lines that we have used for this report are based on a conservative estimate of price inflation of the poor's consumption basket. The poverty headcount gives the share of the poor in the total population, or the share of population whose per capita consumption is below the poverty line. Over one in four persons (27 percent) did not consume enough to meet basic needs in 2004/05 in Balochistan. This compares to just over one in five persons (22 percent) in 1998/99. In other words, the number of poor people in Balochistan increased from 1.5 million people in 1998/99 to 2.1 million people in 2004/05. At first glance, their appears to be progress since 2001/02, where poverty reached affected more than one in three persons (37 percent) as a result of a severe drought that increased poverty across all provinces. However, the poverty severity measure, which gives higher weight to the poorest than the headcount measure, tells a different story: poverty continued to rise between 2001/02 and 2004/05.

[2] The 2003 Balochistan Poverty Reduction Strategy Paper calls the reduction in poverty recorded in 1998/99 Pakistan Integrated Household Survey (PIHS) "a statistical aberration" and finds that the 2001/02 PIHS "continues to be a source of considerable controversy" due to the "continuation of the same biases against Balochistan that have marred the 1998/99 survey". The 2002 World Bank Poverty Assessment comes with the disclaimer that the results for Balochistan "may be less reliable than other estimates in the table due to low density of population." Annex 2.3 of the 2002 World Bank Poverty Assessment contains a discussion on "caveats of interpreting household survey data for Balochistan".

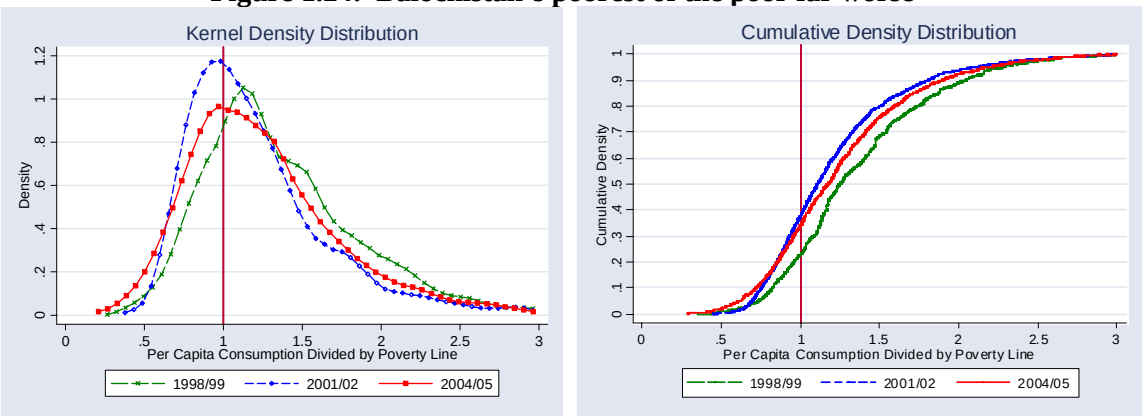
Figure 1.23: Balochistan's poor people have not yet benefited from the economic recovery



Sources: PIHS and PSLM

1.45 What accounts for the discrepancy in the poverty measures? Setting the poverty line is as much art as science. Figure 1.24 shows the kernel density estimates ("smoothed histograms") of per capita expenditure for 1998/99 to 2004/05. The highest concentration of the population (*mode*) is close to the poverty line. This implies that measured poverty is very sensitive to a scaling down or scaling up of the poverty line. The cumulative distribution functions show how poverty changes with different poverty lines. The 2004/05 curve lies above the 2001/02 curves for per capita consumption levels up to 80 percent of the poverty line. Whatever the progress made for people near and above the poverty line, there were more households in extreme poverty in the middle of this decade than at the beginning.

Figure 1.24: Balochistan's poorest of the poor far worse

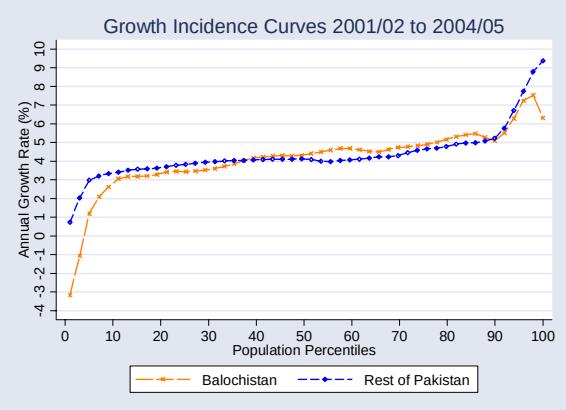


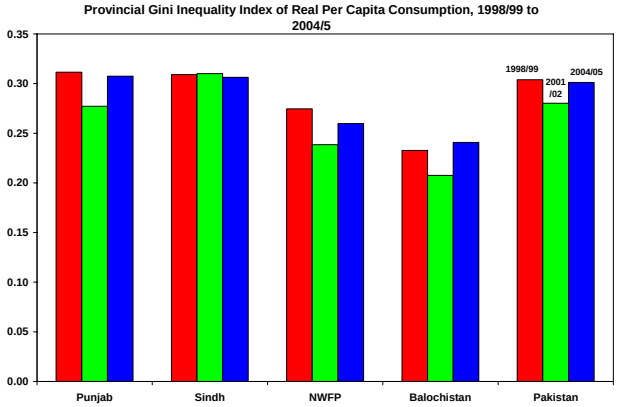
Sources: PIHS and PSLM

1.46 The apparent rise in deprivation from 2001/02 to 2004/05 might appear surprising in view of the robust expansion of Balochistan's economy over this period. It also sets Balochistan apart from the other provinces, which saw declines in poverty. The left panel of Figure 1.25 takes a closer look at this issue. It plots consumption growth across the population ranked according to per capita consumption at the start of the period from left to right. The growth incidence curve shows the growth rate in consumption between two points in time at each percentile of the distribution, where the height of the curve illustrates the consumption growth during the period (Ravallion and Chen 2003). If the curve is upward sloping, the distributional pattern of growth favored those in the upper end of the income distribution, and vice versa. The left panel of Figure 1.25 displays such growth incidence curves for Balochistan and the rest of Pakistan from 2001/02 to 2004/05. The growth incidence curves are both upward sloping, as growth was higher

among non-poor households than among poor households. However, the growth for the bottom 40 percent is less in Balochistan than in the rest of Pakistan. As a result, inequality in Balochistan increased sharply, although it remains the lowest in the country.

Figure 1.25: Growth was more pro-rich in Balochistan than in the rest of Pakistan, and inequality increased sharply

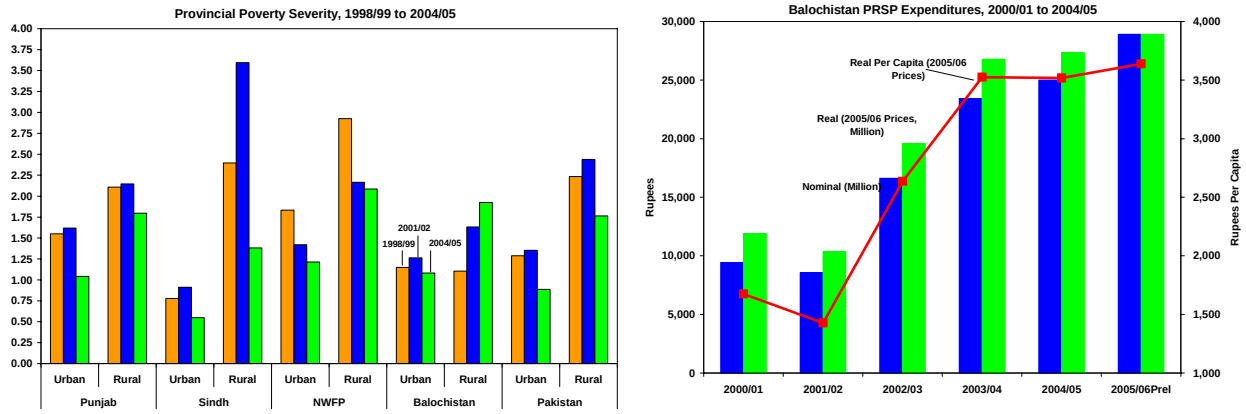




Sources: PIHS and PSLM

1.47 *Opportunity*: The disappointing progress in lowering poverty could well be a case of the cheque is in the mail. What accounts for the poor record on poverty reduction? As shown in Figure 1.11, the drivers of Balochistan's recovery up to 2004/05 are manufacturing, government spending and services. They have generated incomes in cities, but not in villages. Indeed, while poverty increased in the rural areas, it fell in the urban areas of the province (Figure 1.26, left panel). The principal challenge going forward is to ensure that households in villages take part in the growth experience, as they already did in the other three provinces. And there is reason for optimism. Most importantly, the drought, which depressed economic activity in rural Balochistan, finally ended in 2005. This supported the sharp rise in labor force participation in rural areas from 2003/04 to 2005/06, which suggests that poverty among farmers and herders might already have declined since 2004/05 (Figure 1.14). Furthermore, Balochistan has substantially scaled up public expenditures related to poverty reduction in recent years (Figure 1.26). Spending on the 17 sectors, identified as pro-poor in Pakistan's Poverty Reduction Strategy Paper (PRSP), increased in real terms from around Rs1,500 per capita in 2000/01 to around Rs3,500 per capita over the last few years. The rise in public resources and push towards greater efficiency of public spending should further contribute to lower poverty.

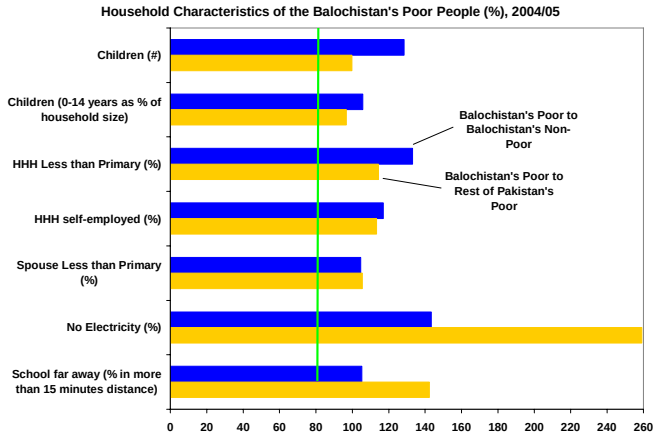
Figure 1.26: Balochistan's urban poverty has already declined, and rural poverty could come down due to higher pro-poor public spending



Sources: PSLM, PIHS and PRSP Program Reports

1.48 A comparison of the characteristics of Balochistan's poor people helps to shed light on poverty reduction in future. Such a poverty profile is useful for designing anti-poverty programs based on proxy characteristics of poverty, even allowing for the caveat that correlation does not imply causality. Figure 1.27 contrasts Balochistan's poor with Balochistan's non-poor (blue bars) as well as with the poor in the rest of Pakistan (yellow bars) for 2004/05. Taking the first characteristic household size, the ratio of 128 indicates that Balochistan's poor people lived in households whose size exceeds those of non-poor households by 28 percent. At the same time, the yellow bar shows that their household size was the same of the poor people in the other provinces. Regarding the within-province comparison, the poor have larger households, less educated household heads, more self-employed household heads and lower electricity connectivity than the non-poor. Relative to the poor people from other provinces, Balochistan's poor people suffer from worse electricity connectivity and distance to primary schools. This supports the idea that access and geography are important determinants of poverty in Balochistan.

Figure 1.27: Balochistan's poor people have weaker endowments compared to Balochistan's non-poor people, as well as the poor people in other provinces



Source: PSLM

1.49 Cross-tabulations are informative about associations between factors, but they cannot answer the key question whether these relationships hold up when other influences are held constant. Some insight on the importance of various dimensions can be gained through a multivariate analysis of the determinants of

living standards. Figure 1.28 shows the cross-sectional regressions the correlation of per capita household consumption divided by the poverty line to various factors across households based on the 2004/05 PSLM. The determinants capture a higher share of the variation in urban than in rural areas. Figure 1.29 displays impact estimates on poverty in Balochistan of six policy measures, covering demographics (lower household size; replacing children by working-age adults), education (full primary education of household head and head spouse), occupation (head switching from self-employment to employment in private businesses), and village infrastructure (full electrification of households). Overall, the estimations support that these seven factors will contribute to lower poverty. Increases in education are most robustly linked to higher consumption, followed by electrification and employment in private businesses.

Figure 1.28: Poverty relates systematically to household characteristics

Determinants of Per Capita Household Consumption Divided by the Poverty Line in Balochistan, 2004/05

#	*DETERMINANTS*	*URBAN*	*RURAL*	#	*DETERMINANTS*	*URBAN*	*RURAL*
1	Household size (#)	-7.7	-5.3	13	Head occupation: private business	3.6	3.6
2	Toddlers (#,age 0-5)	-1.1	-3.8	14	Head occupation: self-employed	1.3	1.6
3	Teenagers (#, 6-14)	-1.5	-3.3	15	Head spouse	-0.9	-1.6
4	Old-age (#, 50 or older)	-2.1	0.5	16	Spouse age (years)	0.5	1.4
5	Head male	-0.5	-2.6	17	Spouse age square (years)	0.0	-1.2
6	Head age (years)	-1.0	-0.7	18	Spouse education: primary	3.0	-0.2
7	Head age square (years)	1.3	0.6	19	Spouse education: lower secondary	1.7	1.7
8	Head education: primary	4.5	1.7	20	Spouse education: upper secondary	3.4	1.1
9	Head education: lower secondary	6.0	0.1	21	Spouse education: tertiary	4.6	2.0
10	Head education: upper secondary	6.4	4.4	22	Household electricity	2.3	6.7
11	Head education: tertiary	8.8	3.5	23	School within 15 minutes	1.0	0.9
12	Head occupation: government	0.2	1.9	24	Constant	2.5	3.4
	Adjusted R-Square	0.45	0.21				
	Number of Observations:	713	1434				

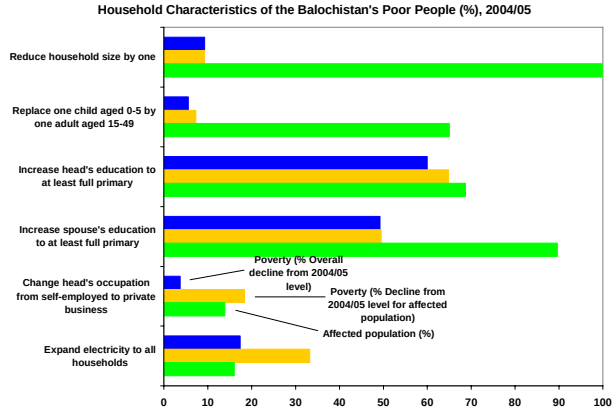
Omitted categories: prime-age adults; head education: less than primary; head occupation: not working; spouse education: less than primary.
The cell entries give the t-statistics.

Positive and significant (10%) | Negative and insignificant
Positive and insignificant | Negative and significant (10%)

Sources: PSLM and World Bank

1.50 As the government has limited resources, not all of these policies can be implemented at the same time. This raises the question of prioritization. Should the measure with the largest estimated impact be taken first? No, these simulations are only illustrative, and other aspects need to be taken into careful consideration (Figure 1.29, left panel). First, the impact of a change in one determinant differs across households. Some households are directly affected from a measure, other only indirectly, and others not at all. Second, the determinants differ with regard to both the extent to which they are amenable to policy decisions, and the time horizon in which they are likely to adjust. Third, the simulations concentrate only on the potential benefits in terms of poverty reduction but ignore any cost differences across the various interventions. Fourth, most measures have an impact on more than one MDG, and such synergies would have to be taken into account when assessing the relative merits of policy interventions. Finally and perhaps most importantly, policies should reflect the priorities of the Balochistan population. Nevertheless, the case for higher investments in education is clear-cut in view of the large poverty impact of education, the almost exclusively public ownership of schools in Balochistan, and the beneficial effects on other MDG goals such as health and gender. Fortunately, as we will see in the next section, the province already took the first steps in the right direction over the last few years.

Figure 1.29: Education has the largest impact on poverty reduction, but policies should take into account other factors as well



Four Dimensions of Public Policies

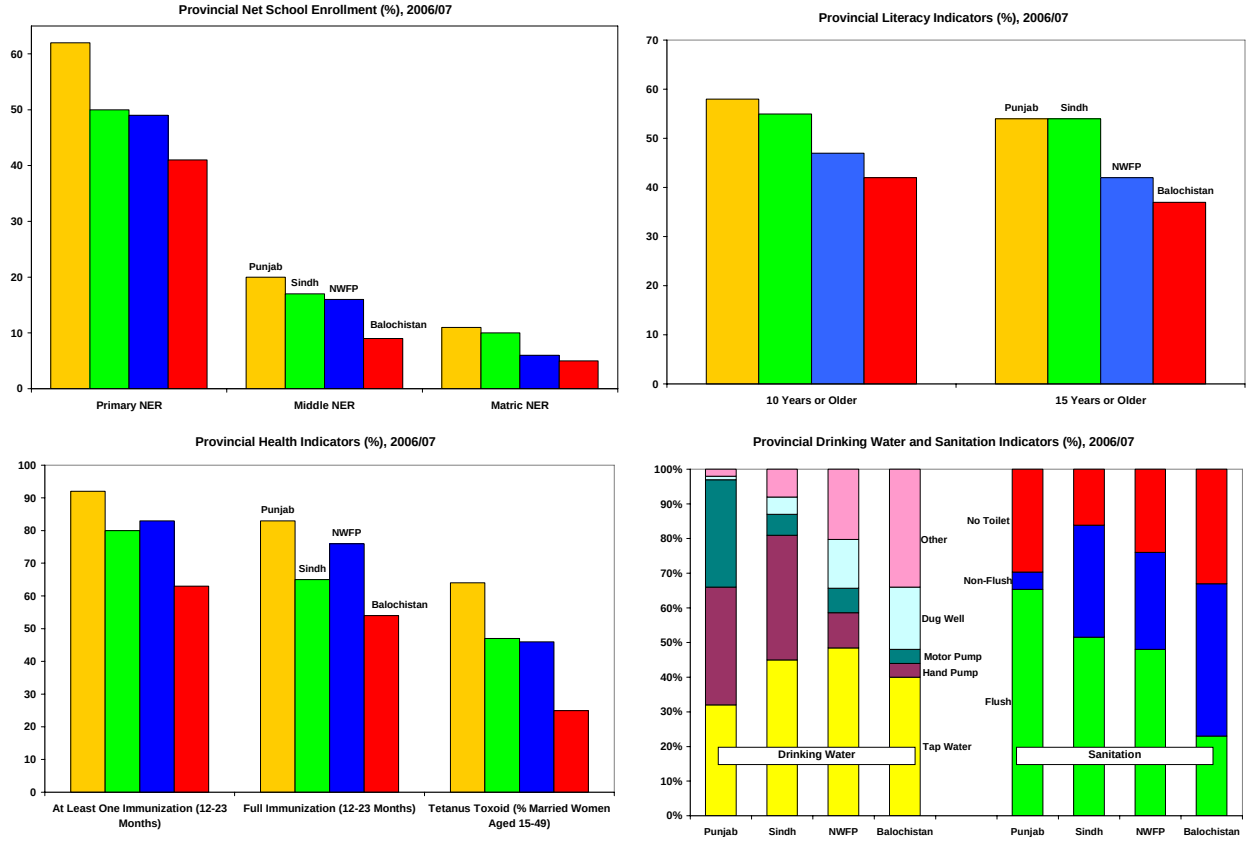
Measure	*Poverty reduction (%)*	*Policy influence*	*Other MDGs*
Head education	-60	High	Education
Spouse education	-49	High	Health, Educ., Gender
Electrification	-17	High	Environment
Household size	-9	Low	Health
Child to adult	-6	Low	Health
Own-account to business	-4	Low	Environment

Sources: PSLM and World Bank

Social Development

1.51 *Challenge 1 (Social Gap)*: In a country known for its social gap, Balochistan stands out as the province with the worst social indicators. It scores lowest in 10 key indicators for education, literacy, health, water and sanitation for 2006/07 (Figure 1.30). Education is marked by the lowest access (less than two in five of children aged 5 to 9 are enrolled in primary school), lowest efficiency (due to late enrolment and repetition, about 45 percent of children in primary school are older than nine years), and highest dependency on public schooling (fewer than one in 12 children attending primary school are enrolled in private schools). Fewer than two in five adults are literate, reflecting a low-skill workforce. Turning to health, one in two infants do not receive full immunization, which is the most cost-effective, equitable health intervention available. Three in four women did not receive tetanus toxoid during their last pregnancy, exposing their babies to the risk of infant mortality due to neonatal tetanus. Poor water and sanitation contribute to low health status. More than one in two households have to rely on dug wells, rivers, canals and streams for drinking water, and four in five families have no flush toilet.

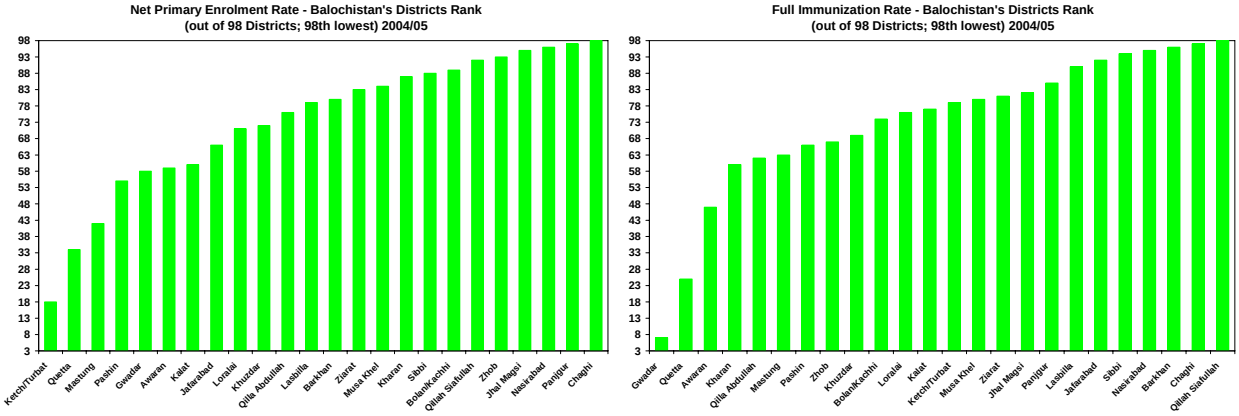
Figure 1.30: Balochistan's provision of education, health, water and sanitation compares poorly to other provinces



Source: PSLM 2006/07

1.52 Perhaps with the sole exception of the area in and around Quetta, social deprivation is widespread in all districts of Balochistan. While there important differences across localities in Balochistan, the salient feature from a nationwide perspective is how poorly Balochistan's districts fare compared to districts in other provinces (Figure 1.31). With regard to net primary enrolment, 11 out of the 16 district with the lowest enrolment rate in 2004/05 belonged to Balochistan, including the four districts with the worst record. Similarly, Balochistan accounted for 7 out of the 9 districts with the lowest full immunization rate, including the four districts with the worst record. Balochistan's performance would look even worse without the exclusion of Dera Bugti and Kohlu in the PSLM sample due to security reasons.

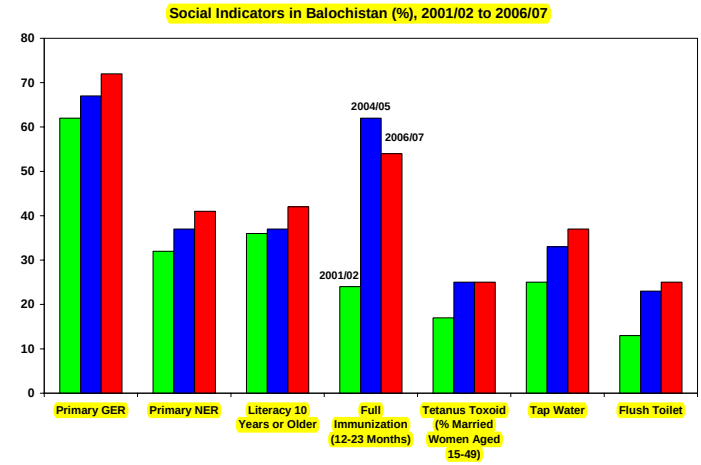
Figure 1.31: Almost all of Balochistan's districts rank low in comparison to the other districts



Source: PSLM

1.53 *Opportunity 1 (Social Gap):* Balochistan has succeeded in narrowing the social gap since 2001/02. All seven social indicators shown in Figure 1.32 increased from 2001/02 to 2006/07, compared to only two from 1998/99 to 2001/02. Most dramatic is the change in infant immunization. The full immunization rate first declined from 32 percent to 24 percent, and then increased from 24 percent to 54 percent. These improvements are likely to be related to a number of factors. First, the renewed policy emphasis on social sectors increased funding to targeted education and health programs that will be discussed later in the report. Second, the economic recovery has put more money in the pockets of households, making social service more affordable. Third, families might attach greater value to the education of their children, as the returns to skilled jobs in the labor market have gone up.

Figure 1.32: The social gap has begun to narrow

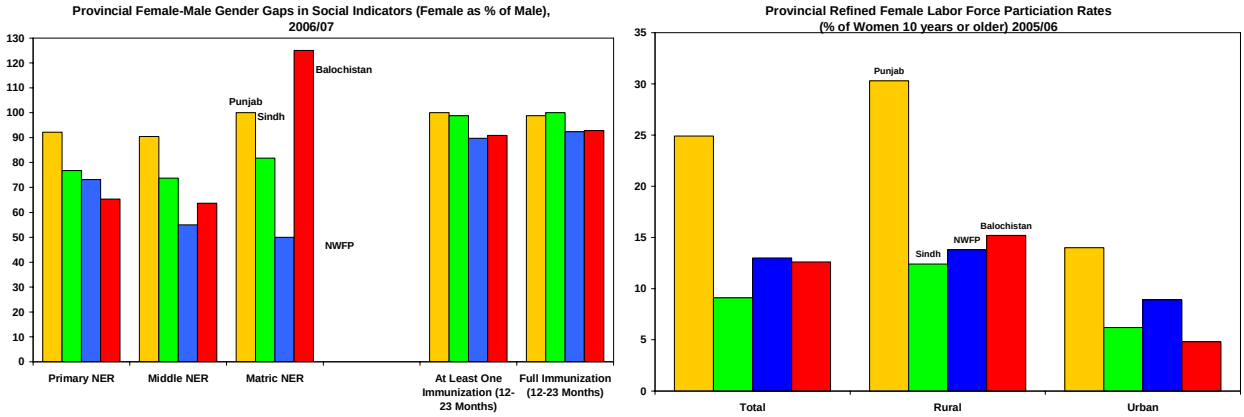


Source: PSLM

1.54 *Challenge 2 (Gender Gap):* Balochistan stands out as the province with the worst record on gender equality. In addition to a social gap, Pakistan is also known for its gender gap. Balochistan's sex ratio (male to female population), a measure of sex-based discrimination, was 115 according to the population census, compared to 112 in Sindh, 107 in Punjab, and 104 in NWFP. Education and immunization indicators, expressed as female attainment as percent of male attainment (Figure 1.33, left panel), confirm this picture. Balochistan scores low in all indicators. The only exception is middle school enrolment, where NWFP ranks lowest, but even for this indicator, the level of female middle NER and GER is lower in

Balochistan than NWFP. The gender gap is also present in the labor market. The participation rates of women aged 10 years or older are close to 60 percent lower than those of men in the same age group. Women in rural areas are up to three times as likely to work than women in urban areas. While low female participation cuts across all provincial labor markets, Balochistan has the lowest urban participation rate, and, after Sindh, the second lowest rural participation rate. The persistent differences in gender access to resources and spaces are related to entrenched patriarchal tribal norms and customs. The same cultural restrictions that limit women's access to education and health facilities also constrain their opportunities to get jobs. Mobility restrictions are among the most important constraints to women's social and economic advancement (World Bank 2006c). They shape the sectors, occupations, and locations of their work.

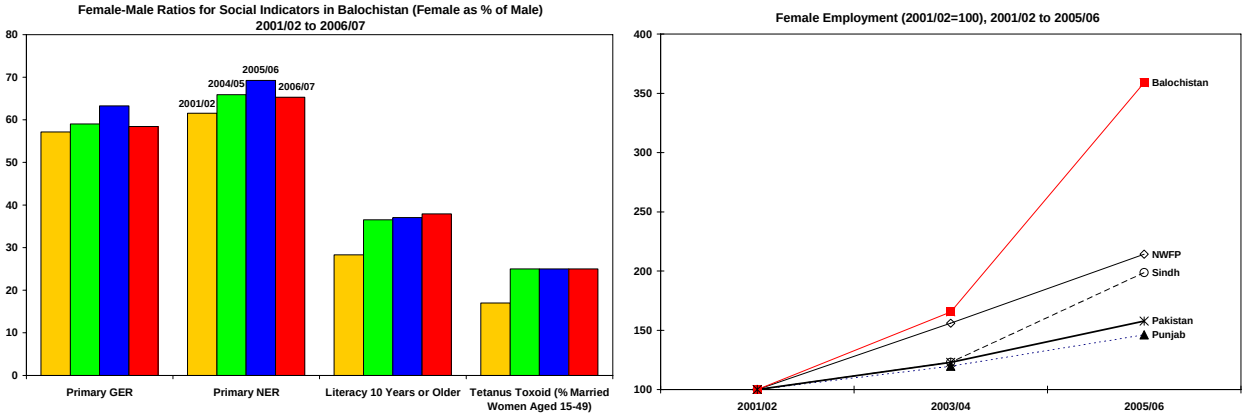
Figure 1.33: In education and immunization, girls and women lag more behind boys and men in Balochistan than in other provinces



Sources: PSLM and Labor Force Survey

1.55 *Opportunity 2 (Gender Gap):* The gender gap also narrowed since 2001/02. For example, relative to the number of boys, the number of girls of primary school age enrolled in primary school increased by 3 percent over the five years. The share of women in reproductive age receiving tetanus toxoid rose by 7 percent. The progress extended from social to job indicators. Women's employment in Balochistan grew by 250 percent since 2001/02, and the bulk of the rise occurred over the last two years. The increase by far overshadowed the still noticeable changes in the other provinces. Much of the recovery is related to the rebound in agriculture, so it might not indicate a structural break from the past; also, however sharp the increase, it still means that no more than 13 percent of women aged 10 years or older are part of the labor force. Nevertheless, it suggests that economic opportunities play an important role in overcoming cultural constraints to women's empowerment.

Figure 1.34: The gender gap has begun to narrow in social and labor market indicators



Sources: PSLM and Labor Force Survey

PART 2: GENERATING GROWTH

2.1 OVERVIEW

2.1 Balochistan is by and large a labor-scarce economy with little crop production (apart from the irrigated Kachhi plains), almost no industry (apart from the Hub region near Karachi), and services catering almost entirely to local demand. By contrast, Pakistan is a labor-abundant economy with growth modes in intensive agriculture, domestic manufacturing as well as banking, energy and telecommunications. Furthermore, the fact that Balochistan covers nearly half of the land area of Pakistan while accounting for only a twentieth of the country's population is a stark enough reminder that any understanding of the province's economic development will need to pay attention to its geographical and demographic peculiarities. Indeed, remoteness and geographical diversity might be viewed as defining the context of development in the province. But Balochistan geography and locality are also its main economic resource. The low population density implies that the province enjoys potentially high value of natural resources per person. The forbidding topography is home to rich mineral and petroleum deposits, much of which have not yet been put to economic use. The long coastline is a possible site of trade and travel, as well as a gatekeeper of rich marine resources. Last but not least, Balochistan's land mass endows Pakistan with a strategic space that might shorten trade and travel costs between emerging economic regions.

2.2 In view of these disparities, Balochistan's growth has to take a different trajectory than the growth paths followed in other provinces. This report proposes that Balochistan's economic development should be based on four thematic thrusts: *(i)* exploiting the diverse natural resource base; *(ii)* developing the location advantage; *(iii)* upgrading the value chains associated with (i) and (ii); and *(iv)* strengthening the foundations of business activity. They support growth which occurs whenever people take resources and rearrange them in ways that are more valuable. Every generation has perceived the limits to growth that finite resources would pose if no new ideas were discovered. And every generation has underestimated the potential for finding new ideas. Possibilities do not merely add up; they multiply.

2.3 First, in the short run Balochistan's growth is likely to come most from economic activities that draw on ***its diverse natural resource base***. Since the province's marked geographic and environmental diversity supports a varied economy, there is a need to pursue parallel efforts, benefiting multiple sectors and regions at the same time. Balochistan's 22,000 settlements are scattered across flood-plains, uplands, deserts, and the coastal area. Horticulture dominates in the high-altitude environment of the north, crop production in the canal-irrigated areas of the east, livestock rearing in the central and western districts, and fishery in the coastal belts. In addition, rich mineral and petroleum deposits are scattered around the province, although only few of them are currently being exploited. Finally, some industry clusters have emerged on Balochistan's side of the border near Karachi. Such internal heterogeneity across a poorly connected, large landmass indicates that no single project or program will be sufficient to transform the provincial economy.

2.4 Second, Balochistan's ***advantageous location*** is the other core asset. The province is on the cultural and geographical crossroads of South Asia, Central Asia and the Middle East, making it a possible hub for inter-regional transport and trade. Balochistan lies opposite to the Straits of Hormuz, which marks the entry into the Persian Gulf where nearly 17 million barrels of oil pass daily. Straddled by the 900 km western border with Iran, Balochistan opens access to these mineral rich areas. In addition, Balochistan shares a 1,200 km border with Afghanistan, providing its north-western neighbour as well as Central Asian countries with sea access. The development of the deep-sea port of Gwadar creates opportunities for trade connections for the resource-rich landlocked provinces of Punjab and NWFP. Finally, Balochistan is also a transit and transport route of gas pipelines, including the $4 billion Iran-Pakistan-India gas pipeline, with an

approximate length of 3000 km, as well as the 1,700 km Turkmenistan-Pakistan gas pipeline. Backward linkages from the import and export at the port, and multiplier effects from the highways connecting it to different regions within and outside the province can spur economic development and population clustering across large parts of the province. This, combined with a fiscal redistribution of a share of the provincial own-source revenues in support of local services, will help to make growth spatially more inclusive.

2.5 Third, while Balochistan's natural and location resources will be the base for the provincial growth, using these endowments ***to move up the value chain*** will make such growth sustainable. This highlights the importance of downstream small-scale processing industries, such as for seafood products at Gwadar, or mineral products at Marble city, as well as small-scale engineering, such as repair and maintenance of machinery and equipment.

2.6 Fourth, Balochistan lacks currently the endowments of technology, infrastructure and manpower for the establishment of modern industries. This suggests that long-term economic development should be centered on fostering ***the foundations that support business activity***. Transport connectivity, education, knowledge, information, and transparent and light business regulations are all crucial.

- Transport connectivity helps to overcome segmentation and remoteness and increases multiplier effects;
- Skill development ensures that Balochistan's labor force is ready to embrace economic opportunities;
- Generating knowledge about the potential of minerals, the fishing stock, or trade integration encourages entrepreneurship and innovation; and
- Transparent and light business regulation ensures that companies can reap such opportunities.

2.7 Economic affluence is associated with prosperous enterprises, and enterprises locate where they expect the highest profitability. Firms will only invest in Balochistan if resources, markets and business climate are favourable for their products. The following discussion shows how Balochistan can develop through leveraging its natural resources (minerals, natural gas, livestock, major crops, minor corps, and fisheries), location (national, cross-border and transit trade), value-addition (industry hubs, support services), and business environment (transport, education, information, and investment climate) (Table 2.1 and Figure 2.1).

2.8 Table 2.2 at the end of this part summarizes the instruments for generating growth across these sectors.

Table 2.1: Balochistan's growth pillars, sectors and areas

Pillar	Sector	Area (District)	Chapter
A. Natural Resources			
	Minerals	Copper/Gold - Saindak and Rekodiq (Chaghai)	Minerals
		Coal - Quetta	Minerals
		Marble - Hub (Lasbela)	Minerals
	Natural gas	Dera Bugti and Kohlu	Petroleum
	Livestock	Northern and central districts	Rural, Livestock, Water
	Major crops	Jaffarabad and Nasirabad	Rural, Crops, Water
	Minor crops	North-eastern and south-western districts	Rural, Crops, Water
	Fisheries	Gwadar, Pasni, Jiwani, Ormara and Sonmiani (Gwadar and Lasbela)	Coastal Development
B. Location			
	National trade	Gwadar and transport routes	Gwadar's Potential
	Cross-border, transit trade	Chaman (Killa Abdullah), Mand/Turbat (Kech), Gwadar	Linking Enterprises
C. Value-Addition			
	Industry hubs	Hub (Lasbela), Quetta	Linking Enterprises
	Support services	Urban areas	Linking Enterprises
D. Business Environment			
	Transport	Province	Linking Enterprises
	Education	Province	Educational Future
	Information	Province	Minerals, Petroleum, Coastal
	Investment climate	Province	Linking Enterprises

Figure 2.1: Balochistan's 29 districts

2.9 In spite of globally rising mineral prices, Balochistan has not yet been able to exploit adequately its geological potential. Balochistan has more than half of the national prospective geology for minerals, yet it contributes just over one-fifth to national mining GDP, and leads only in the production of coals. The mining sector is held back by low funds and low productivity. Overcoming these deficiencies requires Balochistan to respond to an array of complex issues facing global mineral industries. Clearly, there has to be an enabling environment to attract and retain private investments. But in addition to investor-friendly regulations, a modern minerals sector requires good governance and transparency to ensure that poor people benefit from extractive industries, environmental and social risk are mitigated, and the rights of people affected by sector activities are protected. The sector should not only to provide substantial tax and royalty revenues, but also create direct and indirect jobs, stimulate spin-off industries, and contribute to local infrastructure and other development needs in mining areas. To shape a mining sector of this kind, mining sector growth should be guided by two objectives. First, the people of Balochistan, and local communities in particular, should benefit from extractive industries that impact them. Second, federal and provincial governments should develop sufficient capacity for promotion, fiscal and regulatory enforcement, and overall good governance of the sector to ensure a sustained economic expansion.

2.10 As Balochistan's minerals sector is gearing up, its natural gas sector is wearing down. In 1994/95, Balochistan produced 355 billion cubic feet (bcf) and accounted for nearly 56 percent of Pakistan's total output. A decade later, the province produced 336 bcf and contributed only 25 percent to national output. As Balochistan's gas supplies are exhausting, Pakistan is also running out of usable energy. This chapter argues that Balochistan's downward trend in gas production is not the result of a deterioration in the perceived prospectivity. Instead, it is a direct consequence of lack of investment in exploration and development due to security concerns. Companies prefer to invest in the Sindh portion of the Indus basin, just east of Balochistan's major production fields in Loti, Pirkoh and Sui. This decline could be reversed provided that a better modus operandi is sought to ameliorate the security situation; a more transparent

mechanism is established for the sharing of the benefits from the use of the hydrocarbons with the local population in the producing zone; and the provincial government deepens its oil and gas expertise and actively supports private investors.

2.11 While Balochistan's natural resources are valuable assets of national importance, its coastline presents a window to the rest of the world. The third chapter highlights what has to be done to allow the deep-sea port of Gwadar to reach its economic potential. Most of the discussion on Gwadar has focused on transshipment and on transit trade with Central Asia. This chapter argues that the medium to long term potential rests primarily on national exports and imports. If Pakistan's trade volumes continue to grow at a healthy rate over the next ten to fifteen years, then the capacity constraints at Karachi and Qasim will generate substantial business for Gwadar. Even under conservative assumptions, the shortfall relative to today's combined capacity at Karachi and Qasim by 2026 could be over 100 percent for container traffic and close to 60 percent for dry cargo. Furthermore, Gwadar is located near the entrance of the Straits of Hormuz in the Persian Gulf, which holds close to three-fifth of the world's crude oil reserves and almost half of the world's proven gas reserves. Additional economic activity may well arise through transit energy trade with China as well as industrial development, but these prospects are less certain. In order to prepare Gwadar to make the most of emerging opportunities, considerable investments in hard and software are needed. In view of Gwadar's small size after Phase I completion (the port's current capacity is only approximately 3.5 million tons of traffic compared to Karachi port's capacity of 40 million tons) as well as the tough competition from other national and regional ports, substantial Phase II investments in port infrastructure are required. To be effective in its regulatory role of the private port operator, Gwadar Port Authorities should benefit from strengthening in development planning, finance, tariff and rates management, marketing, and performance monitoring of the operators.

2.12 Balochistan covers 790 km of the 1,100 km national coastline and contains rich fishing grounds for tuna and mackerel, sardines and herrings, catfish and croakers, and shrimps, squid and crab. Yet, its coastal and marine resources remain largely untapped, as Balochistan contributes no more than one sixth of the national fisheries value added. The principal reason for the weak performance is low productivity along the entire value chain. Fishermen operate small and dilapidated vessels unable to reach many fishing grounds and yielding only a low catch; harbors and auction halls are congested and fail international health and safety standards; and processing units lack modern preservation and packaging techniques. Since fish is a highly perishable commodity, any weakness in one of these elements lowers the value of the final product. The principal thrust of the government's strategy should be on using scarce public resource to encourage much-needed private sector investment. Priorities include modernizing the existing harbors at Gwadar and Pasni, constructing new harbors in some of the other fishing settlements, upgrading the fishing fleet, highlighting the sector's potential through a new fish stock assessment, launching shrimp aquaculture, and ensuring compliance with hygiene standards and the enforcement of fishing licenses.

2.13 Balochistan's private sector has not been able to make good the vast opportunities offered by its natural resources and coastline. A small population dispersed over a very large, poorly connected land surface leads to highly segmented factor and output markets, a preponderance of small enterprises, and limited business opportunities. Balochistan accounts for just 2 percent of Pakistan's enterprise population; more than 98 percent of the enterprises are own-account businesses; and out of the 2.1 jobs per enterprise, one half is taken up by the enterprise owner, another quarter by unpaid family workers, leaving only 0.56 jobs for paid employees. The experience of Pakistan as well as of other countries shows that subsidy packages to pull industries up in remote areas rarely work well. Instead, a strategy for private sector growth should comprise five broad elements. First, the law and order situation has to be resolved, as security problems in a few districts create perceptions by potential investors of grave security concerns in the entire province. Second, the authorities should provide an environment where private enterprises are able to conduct their business at low costs. Third, investments in both the hard and soft infrastructure across the

border with Iran and Afghanistan are likely to yield a high payoff. Fourth, similar investments are required for internal infrastructure. The development of Gwadar port, the Makran coastline and the mining and petroleum sectors, and the facilitation of cross-border trade in energy and other goods will provide a powerful impetus for stronger linkages of Balochistan's economy with the rest of the country. Upgrading of Balochistan's road network will be crucial for mitigating the disadvantages associated with remoteness and segmentation, and underpinning the process of urbanization. Finally, the government should focus on activities around Balochistan's economic assets, such as minerals, gas, fisheries and coastal development, trade with Afghanistan and Iran, livestock, and crops.

2.14 The last four chapters turn their attention to rural development. Bringing prosperity to Balochistan's villages is both essential and difficult. It is essential for three reasons. Four-fifth of the population resides in rural areas, their living standards lag far behind those of the one-fifth in urban areas; and livestock rearing and crop farming are two important sectors of Balochistan's economy. It is difficult for principally one reason. In the water-stressed country of Pakistan, Balochistan stands out as the most water-scarce province. Building rural livelihoods means foremost raising the water-efficiency of the rural economy.

2.15 The rural economy chapter highlights three features of rural areas. First, water scarcity is an everyday reality in the province. Balochistan's agriculture is still recovering from the impact of a drought lasting from 1998 to 2005, where annual rainfall was some 56 percent below the pre-drought level. Household consumption in 2004/05 was still some 14 percent below the level in 1998/99. Second, as the population adopted livelihood systems closely tied to local environmental systems, there is a large variation in economic activities across agro-ecological zones. While crop and fruit farming as well as livestock rearing as the major occupations in the province, over one third of Balochistan's rural population as well as rural poor population rely on activities outside the field and rangeland as their main source of income. Third, in view of the small agricultural labor market, promoting off-farm income generation is an essential aspect of raising rural living standards and reducing the water dependence. This highlights the importance of improvements in the rural investment climate, access to finance, and infrastructure.

2.16 The following chapter deals with livestock and rangelands. Some two in three rural households engage at least part time in animal husbandry, as large parts of the province are arid and unsuited for intensive arable agriculture. Higher living standards and urbanization have boosted the commercial potential. For example, Pakistan's demand for milk production could rise from around 30 million tons in 2003 to 100 million tons 2020, while Pakistan's supply is projected to increase only from just under 30 million tons to over 40 million tons. Yet, the bulk of the production systems remain subsistence-oriented. For centuries, migration across micro-climatic zones (transhumance) and common property grazing developed as response against localized droughts. But growing human and livestock productions, the tragedy of the commons, and changes in land-use patterns due to urbanization and the drought have reduced the common property resources across the rangelands. Improving conditions on the rangelands requires engaging local communities to reduce pressures on grazing land, a better integration into global and national markets, and upgraded marketing, support and extension services.

2.17 The drought had also a detrimental impact on fruit and crop farming, which is the topic of the next chapter. Production volumes declined by about 7 percent annually between 1998/99 and 2002/03. With the exception of rice, the production of the major crops and fruits is still below pre-drought levels. Beyond the fluctuating availability of water, inefficient use of water, lack of infrastructure, lack of certified and pure seeds, and the slow adoption of technology all contribute to low yields compared to other provinces and countries. For example, out of Pakistan's 367 registered seed companies, only 3 are based in Balochistan; and out of nationwide 10,528 seed dealers, less than 0.3 percent are located in Balochistan. Raising agricultural productivity in a way that is consistent with water availability and environmental conditions is

crucial for lowering rural poverty. While the government has already liberalized agricultural markets, key policy reforms are needed in the areas of water resources, research and extension, market development, and human capital.

2.18 Water is the single most important constraint to developing rural Balochistan. In the past, expansions in irrigated agriculture through increases in canal-commanded areas and the spread of tubewells dominated Balochistan's agricultural development. While this strategy has achieved notable successes, such as the growth of high value horticulture and increased yields, it favored one small part of the province over the rest, and is no longer sustainable. While some 87 percent of Pakistan's total available water is found in the river system of the Indus basin, only 5 percent of Balochistan's landmass is connected to the Indus basin, and the remaining 95 percent rely on non-perennial sources. Excessive mining of groundwater has reduced the water table, as farmers are now pumping commonly beyond the depth of 250m. This has resulted in water deficits in some of the major basins with severe environmental consequences. Balochistan is in urgent need for a new water strategy. Since 97 percent of Balochistan's water use is by agriculture, any strategy to deal with the water shortage has to put this sector center stage. It should be centered on the safeguarding of groundwater resources, the increase in the utilization of floodwater and drought mitigation, and the improvement in water productivity. The policies should be backed up by institutional arrangements for integrated planning and development with the hydrological basin as the basic unit.

Table 2.2: Instruments for Generating Growth

	Investment	Innovation	Integration	Institutions
Mining	Disseminate Geological Survey of Pakistan to attract private investment	Manage well provincial stake in mining companies	Encourage benefit sharing and industry clusters	Pursue Fiscal and Regulatory Reform
Oil and Gas			Make use of gas rent transparent	Promote security and engage provincial-level oil and gas cell
Gwadar	Turn Gwadar into fully-fledged port	Pursue landport model	Leverage national export and import	Strengthen regulation and coordination through GPA
Coastal Development	Invest in value chain and conduct fish stock assessment to encourage private investments; Launch shrimp farming as public-private partnership	Set up fish-processing city at Gwadar	Develop new fishing ports	Build capacity to manage common pool resource
Linking Enterprises	Promote sectors with comparative advantage	Facilitate cross-border trade with Afghanistan and Iran	Consolidate national highway network; Improve provincial roads through 3-point agenda and expand transport & trade infrastructure	Resolve law and order and reduce cost of doing business
Rural Economy	Pursue rural electrification program		Promote off-farm income generation and basic motorized access to underserved communities	Promote programs of bank loans to rural and small town enterpreneurs
Livestock	Provide practical fiscal incentives to adjust stock size to meet grazing capacity in case of droughts	Engage communities in sustainable rangeland management; Set up public-private milk collection and marketing systems	Promote market integration through agro-livestock centers	Promote grading systems that reward quality of produce; Improve information systems for pasture management
Agriculture	Increase funding of green-revolution technology and agricultural research on water-efficient crops; Expand vocational traning centers at strategic locations	Establish public-private partnerships for one-window agro-service centers		Improve capacity to meet sanitary and phyto-sanitary standards of importing countries
Water	Phase out tubewell subsidy; Invest in sailaba agriculture and high-efficiency irrigation systems; Invest in floodwater storage dams for drought mitigation	Initiate pilot schemes for micro-irrigation techniques; Encourage farmers to switch to water-efficient crops	Promote structural change and urbanization to shift water use away from agriculture	Increase abiana assessments and cost recovery; Establish a water entitlements for the 13 large basins; Launch integrated water resource management through a watershed management plan

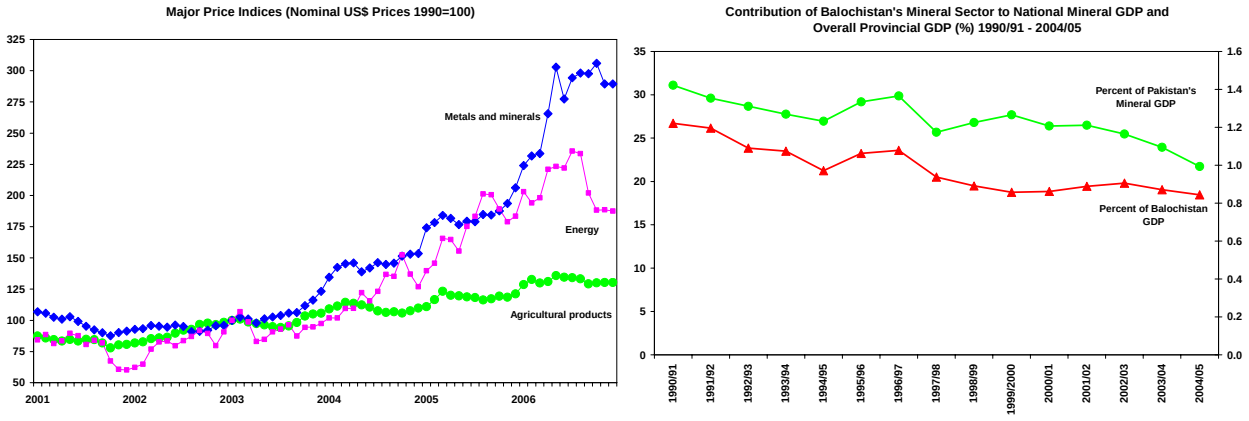
2.2 TAPPING MINERALS DEPOSITS

Small Production, Large Potential

2.19 The mineral resource sector of Balochistan has long been a focus of the provincial and federal governments as a potential source of growth. Indeed, the provincial publication "Investment Opportunities in Mineral Sector of Balochistan" and the two-volume federal publication "Investment Oriented Study on Minerals and Mineral Based Industries" contain comprehensive summaries of mineral prospects within the province, together with investment opportunities. Still, the contribution of the mining sector of Balochistan is small compared to the underlying mineral potential.

2.20 The sharp rise in global commodity prices is testament of the considerable promise of Balochistan's minerals. Continued rapid growth in global output and low stocks has pushed metals and minerals prices up by almost 200 percent since the beginning of 2003 (Figure 2.2, left panel). Unlike other developing regions with good mineral endowment, Balochistan has not been able to exploit adequately its geological potential. The sector's contribution has declined in terms of its importance to Balochistan's economy (Figure 2.2**,** right panel), although the official numbers may underreport actual production levels. It also looks weak from a national perspective. Balochistan has more than half of the national prospective geology for minerals, yet it contributes just over one-fifth to national mining GDP, and leads only in the production of coals. To date, only 39 out of the 50 minerals are being exploited under some 1,080 licenses, and only nine of them account for over 95 percent of the total volume. The mining and quarrying sector employed only 0.23 percent (just under one quarter of a percent) of the workers in Balochistan in 2005/06. The provincial allocation in the development budget to the mining sector range is no more than 0.5 percent to 2.5 percent.

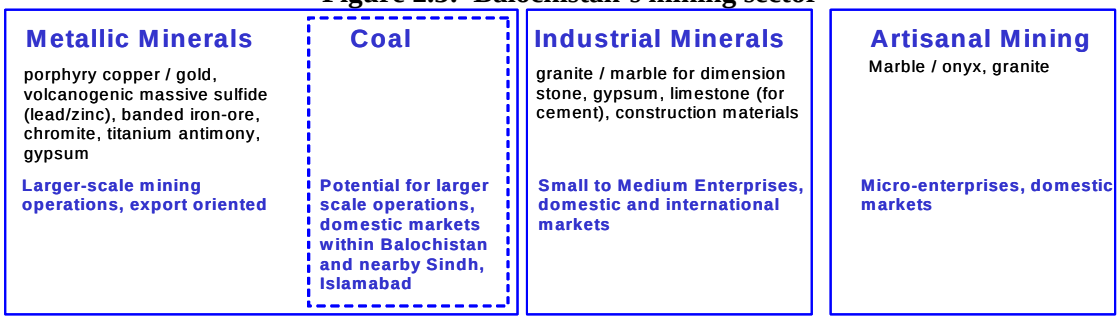
Figure 2.2: Even though global metal and mineral prices have risen sharply, Balochistan's mining sector contribution to provincial GDP has stagnated and to national mining GDP has fallen



Source: World Bank

2.21 This chapter proposes a strategic approach that would allow Balochistan within the next decade to make the most out of its mining potential (Figure 2.3). It is centered on the three pillars of good governance: (a) *economic* – a government's capacity to effectively manage its resources and implement sound policies by reducing the regulatory burden and increasing administrative effectiveness; (b) *institutional* – by creating sound institutions that respect the rule of mining law and reduce corruption; and (c) *political* – competent authorities ensuring a stable, transparent processes in which local affected communities have a voice in resource decisions; and are not suffering undue environmental and social impacts.

Figure 2.3: Balochistan's mining sector



2.22 *Large mining enterprises* draw on globally traded metallic commodities, such as porphyry copper/gold, volcanogenic massive sulfide (lead/zinc), banded iron-ore, chromite, titanium antimony, and gypsum. Growth of this high-technology industry depends on the provision of new geodata and sector promotion for mineral exploration. In Balochistan, Saindak (copper/gold) and a proposed development at Reko Diq (copper/gold) form the nucleus for industry growth (Box 2.1). These capital intensive enclave industries rely on the import of technologies, equipment and professionals.

2.23 *Small to medium scale enterprises* serve both international (dimension stone) and domestic (dimension and industrial stone, and coal) markets. Coal mining is traditionally larger-scale, but remains in the small-to-medium category in Balochistan due to the historic partitioning of one or more geologic seams among small operators (Box 2.2). Production is captive to local end-use markets in space heating, light thermal industries (brick making) and heavy industries (cement). Private enterprises appear to be more competitive than state-owned enterprises, but all operations suffer inefficiencies through inadequate mechanization and higher-cost mining of narrow coal seams at depth (+3,000 feet). Environmental and social issues, especially in regard to local communities around the mining operations have been reported. As such, consolidation has the potential to move coal up into larger mining enterprises class – opening the door on value added thermal industries (principally cement manufacture) and perhaps small-scale thermal power generation. This consolidation is dependent on an analysis of remaining underlying reserves. Dimension stone mining has a potential for expansion through improved mining technologies as well as through development of value-added activities.

2.24 *Artisanal mining enterprises* are independent or micro-sized operators providing employment in rural areas. The province is well endowed with dimension stone (marble, onyx and granite) and limestone for cement and construction materials (Box 2.3). With a good underlying resource endowment, sector growth depends on strategies that formalize operations, improve efficiencies and integrate producers with downstream processors in industry clusters. In Balochistan, high-value marble and onyx for construction end-use markets both within Balochistan and nearby Sindh falls into this category. The currently more than 80 percent of material loss through inefficient mining technologies are unacceptable by industry standards. Local labor skills in the mines remain primitive, lowering productivity and damaging to the high-value product. The development of Marble City within Balochistan, located northwest of Karachi, represents an early formation of an industry cluster through which economic linkages can be captured within Balochistan.

Box 2.1: Copper mining – on the road to success

In 2000/01, Tethyan Copper Company, Australia, took over the Reko Diq Project from Australian BHP Billiton who had signed the agreement with the Balochistan Government in 1992/93. Tethyan succeeded in raising over US$30 million from the international markets (Australia, Europe and North America) and was successful in listing Tethyan Copper Company on the Australian Stock Exchange (ASX) with a focus on the Balochistan Copper Project in October 2003 (first in the history of Pakistan).

- Tethyan in less than 4 years drilled over 75,000 meters and spent over US$30 million to prove the reserves in the ground. Today, the Reko Diq reserves are considered among the top seven copper reserves of the world.
- Tethyan, during its last 4 years of dedicated operations in Balochistan, proved to the world mining and financial community that inspite of the unfortunate negative publicity and perception, it was possible for foreigners and foreign companies to work in Balochistan.
- The huge reserve upgrade recently announced by the company on the Australian Stock Exchange and endorsed by independent experts meant that the Project was much bigger than first anticipated by Tethyan (US$200 million).
- The Project now requires investments over US$1 billion.
- Since May 2005, Tethyan approached the top International Mining Companies around the world to come and join hands in the development of this huge discovery at the Reko Diq Project in Balochistan.
- In late October 2005, Antofagasta and Barrick Gold, after carrying out a thorough due diligence which included several visits to the site in Balochistan, was convinced that the reserves were large enough, the Government's Foreign Investment Policies were highly encouraging and that it was possible for foreign companies to work in Balochistan.

Tethyan had to prove that the reserves in the ground were large enough for large investors to take the project seriously. The Company also had to prove that it was possible for foreigners to work in Balochistan if an equitable profit sharing could be worked out with the participation of the Provincial Government and the people of the area. With the investor friendly and positive economic policies of the present government providing a level playing field and the vision for the future of Balochistan, Tethyan managed to attract world-class investors keeping a profit sharing with 25% Balochistan's interest being free carried interest until feasibility. Reko Diq represents a potential US$1 billion Foreign Direct Investment within Balochistan. This is the first private sector funded mining venture in Pakistan's history.

Box 2.2: Balochistan's coal sector is in need of modernization and consolidation

The Government of Pakistan is keen on exploiting coal as indigenous energy resource in order to meet its expanding energy requirements, diversify energy supply and save on foreign exchange. While the bulk of Pakistan's coal resources is found at Sindh's Thar deposit, Balochistan has known coal mineralization since the late 1800s, and is still Pakistan's leading producer. Currently, mining is active in six fields, confined geologically to the Ghazij formation, which have been mapped by the Geological Survey of Pakistan. The production and productivity of the mines are low due to a number of factors:

- Mine ownership is highly fragmented. Due to chronic underinvestment, mines are generally operating with rudimentary and worn out equipment, using inefficient manual and semi-mechanized long-wall mining methods.
- The fields form relatively narrow belt structures disturbed by faulting and folding with considerable dips. The coal is in several, relatively thin seams, which complicates access, mining, support and ventilation activities. Storage losses due to weathering and formation of fines are common.
- The aging of mines results in production at distances up to 1,150 meters. This increases production costs as access, ventilation, roof support, transport, haulage and repair and maintenance become more difficult.
- Mines pose health risks to workers and mining camps often lack health facilities and drinking water. Some of the coal has significant contents of volatiles, ash and sulfur, which can result in occasional spontaneous combustions.

Mineral Investment and Revenues

2.25 Exploration for solid minerals is high risk and high reward. For example, on average, only about one in every one hundred metallic mineral prospects explored proceeds to production – and therefore higher returns are needed to justify investment into exploration. Large-scale mining operations generally last fifteen or more years on payback periods averaging five years. The return on hard-rock minerals should substantially exceed the return on petroleum investment, even though the recent spike in hydrocarbon prices has upset that balance.

Box 2.3 Marble and Granite mining in Balochistan

Marble reserves in Balochistan are estimated at 2 million tons. An estimated 30,000-40,000 tones of marble is produced from the Western Balochistan, and Khuzdar, Kalat, Loralai, Lasbela, Chagai, Ziarat, Zhob and Sarona Loi marbles are famous. Quetta has nine marble cutting and polishing units. The high cost of electricity, shortage of skilled labor in local markets and lack of industrial zones in Quetta area for this industry is a major bottleneck for the sector growth. The manufactured material is used locally, as products are not compatible for export. The marble and granite sector in Pakistan is severely underdeveloped due to primitive and inefficient mining practices using unskilled labor that wastes a majority of the resource at the mine and produces a product that has been highly degraded through poor blasting practices. Beyond the mining techniques, additional problems relate to poor processing technologies, inconsistency of quality of products and small product lots (units of shipping) that are not appropriate for many larger construction projects. A weak marketing strategy has limited many producers in realizing new growth opportunities and poor infrastructure has limited access to some of the province's better resource areas. This latter constraint has been partially overcome by industry clusters such as Hub where water and power are available; but this also perpetuates the shipment of considerable waste material that has yet to find application in markets and must be disposed of at the marble cities.

The Ministry of Industries, Production and Special Initiatives has started the initiative to promote/ develop marble and granite sector in Pakistan. Pakistan Stone Development Corporation (PASDEC) has been established as a government owned company which is charged with the implementation of programs in the dimension stone sector. This Rs 2 billion program with Rs 900 targeted toward quarry development envisages establishment of ten model quarries to improve the quality / quantity of dimension stone and the mineability of operations. PASDEC propose to manage risks by providing machinery and soft inputs in the form of technical assistance over 3-5 years. Additionally, as many as 20 existing quarries in Balochistan will be candidates for upgrades on a cost sharing scheme for equipment and technical assistance through extension services.

2.26 The development of the mining sector requires an enabling environment for attracting and retaining private investments. Balochistan is challenged to respond to an array of complex issues facing global mineral industries. In addition to investor-friendly regulations, a modern minerals sector requires good governance and transparency to ensure that the poor benefit from extractive industries, that environmental and social risk are mitigated, and the rights of people affected by sector activities are protected. The objective for the sector, once it is operational, is not only to provide substantial tax and royalty revenues to central and local governments, but also create jobs, stimulate spin-off industries, and contribute to local infrastructure development and other needs in mining areas. To boost investment in Balochistan's mining sector, the governments of Pakistan and Balochistan will need to:

- promote scientific and geological investigation into the nature and extent of Balochistan's mineral resources and to make such information available to potential investors;
- emphasize professional development of personnel through training and exposure to best international practices in the mineral industries;
- create administrative departments with clear and consistent mandates and procedures;
- ensure transparent, non-discretionary administrative processes;
- strengthen administrative capacity for policy and administration, cadastre services, mines

inspection, health and safety issues, environmental matters, commodity certification and quality control, and geological survey and laboratory services; and
- regularize small scale mining through adequate institutional and technical support.

Geodata

2.27 When faced with stimulating sector growth, the question most asked by governments is "…what do investors want?" Not surprisingly, a good underlying mineral potential and long mining tradition tops the list. The main objective for geological mapping is to understand the geology and resources of a region. Following international practice (Box 2.4), Pakistan generates broad coverage geochemical and geophysical surveys and regional thematic mapping. These maps help companies to answer their question about an area's underlying mineral potential. They allow companies to identify industrial and construction materials, as well as to generate more detailed maps for mineral exploration. In this way, providing widespread low-cost access of geodata through CD-ROM or the internet becomes an important tool to stimulate growth of the mining sector.

Box 2.4: The Geological Survey of Pakistan

The Geological Survey of Pakistan (GSP), established in 1947 as a branch under the Ministry of Petroleum and Natural Resources, has its headquarter in Quetta. It pioneered geological work in Pakistan. GSP has developed geological maps of Pakistan on 1:250,000 and 1:1,000,000 scales, Seismic Risk Maps of Northern and Southern Pakistan, Tectonic Map of Pakistan, and Seismic Risk Zone Map of Pakistan, which are all available to end users. Limited areas are covered with geological, geophysical, and geochemical maps under the scale of 1:50,000. Information on mineral deposits, however, is still quite limited and does not allow for the proper evaluation of the mineral potential of the country, and, given the increased interest/attention to develop the mineral sector, is insufficient for mineral investors.

2.28 Geodata can also address another priority issue of companies. New mines tend to follow existing operations in the same region, benefiting from infrastructure established on previous mineral production. As such, large investors favor well known mining regions and the industry has been structured with "majors" developing and producing a majority of mineral production and "juniors" undertaking high-risk exploration in frontier regions. While Balochistan has indications of a favorable mineral endowment, it does not yet a legacy of past or current production. Geodata can help to overcome this concern in Balochistan through geological analogue analysis. Such matching of geological similarities and differences between well and less well explored terrain stimulates exploration in new areas whose geological profile is akin to established high potential areas.

2.29 In addition to geo information, users ideally will need to (i) understand mineral resources in the broader context of land-use, water availability, infrastructure (power and transportation), and biological or cultural attributes that would be impacted by development; and (ii) have information on distribution of mineral rights in an area of interest. It would also be of interest to display minerals in the centers as public interest in the sector develops. Adding this information will expand mineral resource information centers beyond their original purpose into Public Information Centers – an option to be considered by the governments of Pakistan and Balochistan.

Governance

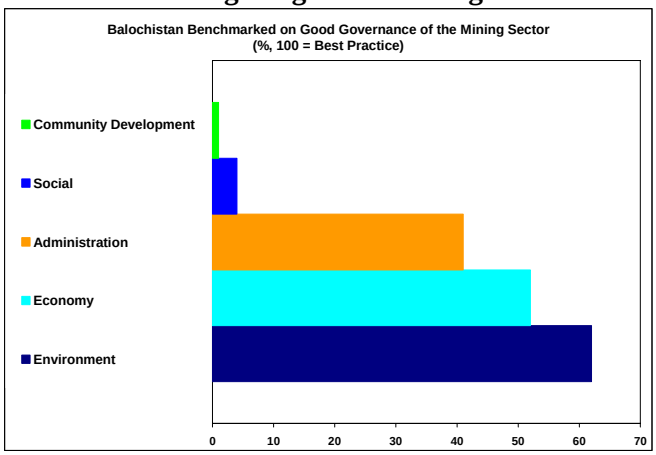
2.30 After geological favorability, the list of what investors want is dominated by factors under control of the government – the need to create an enabling investment climate based on strong policies, laws and regulations. For this, sector governance is central to the level of investment likely to enter into a region, province or country.

2.31 Good governance is essential to avoid misallocation of national resources that could lead to increased poverty, corruption, and conflict. As a starting point, the government of Balochistan will want to ensure competition, transparency, and adherence to international best practices in respect of authorizing new investments in the sector. It is important to recognize the need for transparent procedures at each key decision point in terms of (a) upstream issuance of mine title and/or authorization of investment agreements; and (b) downstream management of benefit streams through sound sector policy.

2.32 Good sector governance attracts private investment capital and ensures growth based upon a continuous process of exploration and discovery of new mineral reserves that can be produced and sold for an acceptable return on investment. How does Balochistan's governance regime score vis-à-vis global competition? Compared to a best practice set of mining laws and regulations, Balochistan's Mineral Rules could be improved in the following areas (Figure 2.4):

- Some provisions could be split into law and regulations. The criteria and explanations for the licensing process could be sharpened to reduce the discretionary authority by the government.
- The rules for large-scale mining should be separate from rules for artisan and small-scale mining.
- The rules are very weak on social and community development.
- While the rules have well defined violations and penalties, the responsibilities of the authorities and transparency and public disclosure of their activities could be clarified. The rules regarding the functions of the mining cadastre and the requirements of titleholders during the mining activity could be improved.

Figure 2.4: Balochistan's good governance regime can be improved.



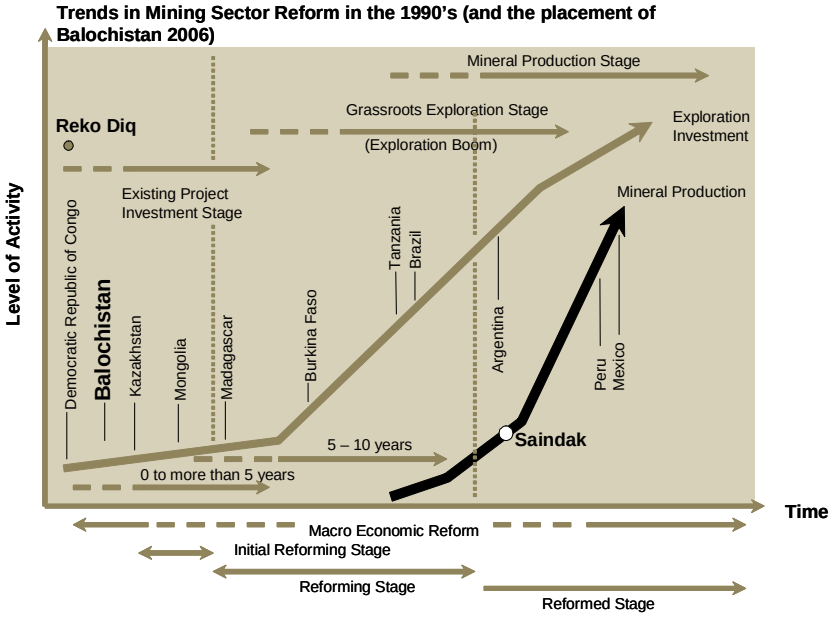
Source: World Bank

Regulatory Reform

2.33 Reforms of the regulations governing mineral sector are an integral part of the World Bank mining programs in developing countries. These reforms target attracting private sector investment to directly stimulate revenues for the government and mitigate against abuse and fraud to provide confidence for the investors. Reform of the fiscal and regulatory environment is a comprehensive approach that includes re-writing the basic sector legislation and regulations; liberalizing the fiscal regime while, at the same time, tightening up on tax compliance; strengthening public sector oversight institutions including cadastre management and mines inspectorate; improving environmental review and controls on projects; improving and enhancing the geo-science database; and providing extensive training and capacity building in key functions.

2.34 Within a global context, Balochistan falls in a regional peer group that includes Kazakhstan and Mongolia. In both countries exploration investment ten years ago was very small but today these nations are growing quickly in exploration investment (Figure 2.5). In Balochistan, the two large-scale deposits (Reko Diq and Saindak) will help the industry can establish the skill sets and financial networks necessary for additional developments. Balochistan has a potential to accelerate up the exploration curve to levels comparable with Argentina and thereafter climb the mineral production curve to match producer states such as Mexico. Based on the historical trend, significant increase in mineral production would be expected five-to-ten years after the beginning of reforms.

Figure 2.5: Balochistan's mining sector has a long way to go



Source: World Bank

2.35 What sector reforms are required for Balochistan? Global experience suggests that these principles should guide the Ministry of Petroleum and Natural Resources and DG Mines and Minerals of Balochistan in strengthening the legal and regulatory frameworks:

- *Mineral Policy:* to define mechanisms to create an enabling business environment, establish competitive provisions to attract investors, and strike a balance between direct and indirect taxation.
- *Mining Law:* to lay out definitions of the rights, privileges, and obligations of holders of mineral rights towards social and environmental management plans, fiscal and regulatory obligations including equitable distribution of resource rents, and provisions for mine permitting and mine closure.
- *Mining Regulations* define specific procedures by which mineral rights are acquired, transferred, expanded, rescinded, or otherwise modified. This includes the calculation, procedure, and administrative processes for payment of royalties and surface fees; the terms and conditions for the assessment and management of social and economic impacts, and ongoing monitoring of key sustainability indicators; the rules and regulations for mine closure; as well as the organizational structure of DG Mines.
- *Mining Contracts and Licenses* clarify terms and conditions of the legal, fiscal, and regulatory environment. In Balochistan, they are likely to include project-specific provisions regarding schedules of investment, financial commitments and surety of closure through performance

bonds, and general understanding regarding the economic, environmental, infrastructure, and social contributions of the mine.

Fiscal Reform

2.36 When Balochistan assigns revocable rights to third-parties to develop these resources, these rights come obligations for payment to the government for the privilege to develop mineral resources. A company's ability to predetermine tax liability and the stability of the fiscal regime will be central to any company's evaluation of the competitiveness of the mining tax regime. The primary goal of mining taxation policy is to satisfy two complementary objectives: for society, to achieve sector development and receive an equitable share of revenues under acceptable environmental and social impacts; and for the company, to achieve adequate return on investment through mineral development.

2.37 In assessing the effect of the taxation regime on a potential investment, the prospective investor will consider the total tax burden and its impact on the profitability of the project. A typical mine in most mining countries is subject to a wide range of taxes, including corporate profits (income) tax; royalty; customs duty; general sales tax; payroll taxes; licensing and permitting fees; land taxes; and water taxes. As shown in Table 2.3, Balochistan tax regime is broadly consistent with international standards, although many countries have lower royalty rates.

Table 2.3: Balochistan's tax regime is in line with other countries.

Country	Income Tax	Dividend Tax	Royalty	Import Duty	Stability years	VAT
Pakistan	**35%**	**7.5%**	**1-10%**	**5-10%**	**Yes**	**15% GST**
Chile	15%	35%	None	0-11%	Yes	18%
Peru	30%	0%	None	12%	15-Oct	18%
Indonesia	30%	15%	Yes	Exempt	30	10%
China	33%	None	2-4%	Yes	None	0-13%
Mongolia	40%	20%	2.50%	None	15-Oct	13%
PNG	25-35%	17%	2.00%	None	Yes	0 rated

Thriving Mines in Thriving Communities

2.38 Most of the risks of mining activities occur at the local level and relate to environmental impacts, social and cultural impacts and increased population pressures due to in-migration to mining project areas leading to demands for increased services and infrastructure from provincial and local levels of Government. Some costs are internalized by the mining company, but many are not, and these issues must be addressed by mining policy in order to maintain social justice, and through it, project security.

2.39 *Environmental priorities* include but are not restricted to the following: (i) the safety and the quality of life of people living in mining-influenced areas, (ii) the sustainable management of the natural resources on which they depend, (iii) the impact on environmental services, (iv) impacts on globally significant environmental assets (e.g. endangered species or ecosystems). Environmental priorities may comprise among others: loss of arable lands, impact on water quality and supply, air pollution and their associated health impacts, impact on basic services, impact on vulnerability to natural hazards, controls on resource degradation to maintain key environmental services, business or infrastructure resilience to flooding or other hazard event and so on.

2.40 *Social priorities* refer to regional, tribal, ethnic and local concerns and conflicts, community bonds, social safety nets, and gender disparities in access to education, health, basic services/utilities, job

opportunities, equitable benefits sharing of mineral production, the likely distribution of risks and benefits by each stage of mining activity, and formal and traditional conflict resolution mechanism, etc. The identification of environmental and social priorities associated with mining growth in Balochistan is one of the key steps to be undertaken by the Government within the Strategic Environmental and Social Assessment (SESA) which is to be undertaken during 2007-2008.

2.41 Mines do not thrive in communities that fail. One of the greatest development challenges facing a mineral-based economy is to find ways that convert mineral wealth into durable development benefits. Whereas the focus has traditionally been on national and regional mechanisms, the importance of local (community) benefits now stands at the forefront of mine development. A comprehensive framework for compensation and benefit sharing that leads to a concerted community development plan between the local community, the government and the mining company is the critical factor in the managing mining revenues for local community development.

2.42 The forms in which benefits are transferred to local communities vary considerably across countries. Often these schemes rely on local governments to provide services that compensate for the impacts of mining. However, experience suggests that in many cases the outcomes have been disappointing. For instance, several programs contain employment guarantees, but remote communities seldom provide skills suitable for mine employment, so implementation of these commitments is difficult and raises costs for mining companies. In other cases, royalties paid to the central government do not revert back to the affected region, even when the legislation specifies that this should be the case. Finally, many of these schemes rely on local governments to deliver services, but neglect the fact that they may lack the capacity to discharge these additional functions. There is a broad range of benefits that can be provided to local communities affected by mining. These include provision of rural infrastructure, small-to-medium enterprise development, formation of human capital through company-sponsored training, providing job skills both directly at the mine, and in secondary support ("spin off") industries.

Improving Economic Linkages

Mineral Resource Assessment

2.43 The collection of geodata is often used to support holistic land-use planning. Sound resource policies for Balochistan can be developed using information on the underlying resource potential by incorporating expectations for future production (and economic benefits) across time. Holistic land-use planning will allow the provincial government to more easily assess alternative development strategies.

2.44 Mineral resource assessment is a broad term for a collection of tools that define the underlying mineral resource potential of a region – the untapped potential that, if harvested, can be translated into economic growth. This underlying potential includes both previously discovered deposits, together with yet undiscovered deposits that might be available for future production. Resource assessment is described using three components: geologic, economic, and resource potential estimates:

- the geologic assessment – a combination of data collection and data compilation with which a team of geological specialists provide estimates of the fuller discovered and undiscovered mineral endowment;
- the economic assessment – an assessment program in which the mineral endowment is subjected to cost analysis to determine the commercial viability of resources within the region. This assessment can include formal integration of alternative infrastructure development scenarios; and

- the potential assessment – a consideration of the time and uncertainty involved in mineral exploration and development. Output from this analysis are estimates of the economic contribution of mining across the interim, medium, and long term planning horizon.

2.45 The understanding from resource assessment supports policies based on an understanding of the potential economic contribution mineral resources, from both discovered and undiscovered deposits and some future period of time. Holistic land-use planning considers complementary and competing land-uses to mining together with the formal integration of infrastructure improvements and additional opportunities that might arise from those improvements. Regional economic development strategies use resulting mineral policies and land-use plans to identify government and industry strategic investments – often in road, rail and ports. Often the mineral potential estimates result from a model-based system where "what-if" analysis permits real-time testing of alternative policies, infrastructure or land-use development proposals, or other regional economic development initiatives.

Power Generation

2.46 Balochistan remains the most under-developed province in terms of power generation. Although the province generates 2,195 MW – much of it is dispersed to trunk transmission and wheeled to other provinces. The electricity demand in Pakistan continues to grow at approximately 7% per year, and the estimated growth in Balochistan is an astonishing 17% per year. Current base demand for power in the province stands at 474 MW. While neighboring China and India have strategic long-term plans for major new coal generating capacity, in Pakistan the role of coal in power generation has yet to be established. In this context, the Government of Pakistan is keen on exploiting indigenous energy resources, including coal, to meet not only its expanding energy requirements but also to diversify its energy supply sources and save on foreign exchange through increasing domestic power generation.

2.47 With its limitations in terms of underlying coal resource potential, power development in Balochistan is likely to fall below the cross-over between small-scale power (<50 MW), which would fall under the Provincial development auspices, and large-scale power generation, which would need to be developed through the federal level Private Power & Infrastructure Board (PPIB). The fiscal and regulatory regime for larger projects under the Policy for Power Generation Projects (2002) includes the following requirements which need to be considered prior to starting the power generation development:

- Ensure that sufficient capacity for power generation is available using a least-cost basis;
- Encourage use of indigenous coal resources;
- Ensure that all stakeholders are included in the decision-making process in a considerate manner (a win-win framework); and
- Safeguard the environment.

2.48 Power development in Balochistan is envisaged to more likely supply local markets. A strategic power development model would need to consider such factors as: (a) growth in end-use demand, (b) cost of fuel (coal) supply, (c) least-cost generation option, (d) transmission / distribution costs, and (e) market tariff.

2.49 Given current conditions and productivity of the existing coal mines servicing local end-use markets in Balochistan it is difficult to assess the potential for a larger commercially viable mine that might stimulate power development. A first step would be an analysis of the underlying coal resource potential and costs associated with its development as determined by the quantity / quality characteristics and annual demand for coal. Undoubtedly consolidation of some operations might serve as a pilot demonstration of the ability of mine owners and investors to jointly restructure an industry.

Mining Clusters Development

2.50 Mining projects can also support the regional economy through the creation of industry clusters, or concentrations of related companies, specialized suppliers, service providers, and institutions (Box 2.5). Mining clusters have two key elements: all the firms in the cluster are linked via strong information networking, and groups of inter-linked companies locate in close proximity to one other, most often around a dominant mining or mineral processing center. Such clustering leads to increased levels of expertise, providing sourcing companies with a greater depth to their supply chain. There is a potential for economies-of-scale by specializing production within each firm, joint purchasing of common raw materials at discounts, and joint marketing.

2.51 Where is government most effective in terms of supporting cluster development? First, providing sites and premises for potential investors and for the expansion of existing businesses is an important component of maintaining the long-term success of a cluster. Second, good land use planning through the development of business parks has a recognized influence on cluster development. Third, the ability to access finance contributes to the growth and expansion of cluster-related activities. This includes access to venture capital, specialist financing, public and private R&D funding, and investor networks. Cluster managers can provide advice on potential sources of funding and bring potential investors and companies together.

Box 2.5: Marble City

The government launched in 2005 the Marble City in Balochistan's fishing port of Gadani near Karachi. They provided 100 acres of land for free to entrepreneurs, of which 55 percent are reserved for businesses from Balochistan, and 15 percent each for businesses from Sindh, Punjab and NWFP. Marble City contains a dimension-stone cutting and polishing processing center serving residential and commercial construction. Located close to Karachi, the Marble City cluster has an ultimate build-out of sixty industrial sites for cutting and polishing of primarily onyx and marble. Nine operations are in production to date. Marble City is partially integrated with upstream mining operations and moderately integrated with downstream end-use markets. By introducing mid-stream processors who improve the quality of the product, it supports establishing long-standing relationships between mines and end-use buyers.

The cluster now needs expert advice relating to (i) international practices for utilization of waste materials; (ii) establishing a skills development center, and (iii) introduction of government-supported research and development were discussed. Private-sector investments serve to increase economic efficiency through introduction of advanced processing technologies, and networking between mines and end-use buyers. The cluster approach is now facilitating investment flows between miners and processors providing a portal through which technology transfer and small scale financing could be introduced to improve artisanal mining operations.

Way Forward

2.52 Any strategy for mining sector growth should be guided by two over-arching objectives. First, the people of Balochistan, and local communities in particular, must benefit from extractive industries that impact them. Second, federal and provincial governments must develop sufficient capacity for promotion, fiscal and regulatory enforcement, and overall good governance of the sector to ensure sustained economic growth (Table 2.4).

Table 2.4: Opportunities, Challenges of Sustainable Mining and Strategic Responses

Opportunities	Challenges	Strategic Response
Optimal use of the Province's mineral endowment	Barriers to attracting large new investments by private and foreign investors for Balochistan.	Increase awareness of the needs for reforms among MPNR and Quetta government officials and other stakeholders)
• Contribution to Provincial GDP, industrial output, fiscal revenues, & exports earnings. • Employment and income multipliers, training, & skills transfer and human capital formation. • Opportunities for additional industrial cluster development • Investment in local and rural infrastructure (physical and social)	• Inadequate and out dated legal and regulatory framework and limited institutional capacity. • Investors are unaware of mineral potential through inadequate minerals inventory, unknown geological data base • Need for improved transparency and governance • Inefficient investment promotion • Lack of informed consultation and participation of affected communities in revenue planning and development	• Strengthen the legal, regulatory and institutional framework • Begin to commercial state-owned coal operations, take actions to consolidate small in-efficient operations and further encourage private investment • Improve institutional capacity, sectoral governance and revenue management • Develop a modern mining cadastre and registry • Take strategic actions relating to cluster development • Produce and disseminate basic geological information as a public good to stimulate private sector investment interest.

2.53 The development of Balochistan's mineral sector is centered about three central themes (Box 2.6):

- *Geological Information* – production and diffusion of basic geological information is needed to improve the international knowledge of the mineral potential of the province and sustain the promotion of private investments in the mining sector. Using the geodata, mineral resource assessment should be undertaken to inform land-use planning, infrastructure development and sector policy.
- *Fiscal and Regulatory Reform* – adjusting the legal and fiscal framework is necessary to harmonize to international best practices and promote the sector at the international level investment opportunities within the mining sector and improve transparency and efficiency of public mining institutions. Concurrent with these reforms would be promotion of incoming investments for large scale mining, most noticeably building on the success of the Reko Diq development.
- *Mining and Community* – promoting the need for better understanding of the distribution of impacts and benefits of the mining sector on local populations and the implementation of policies and programs for the sustainable management of mineral resources.

Box 2.6: Balochistan's mining technical assistance project

The Governments of Pakistan and Balochistan have started preparation, with the help of the World Bank, of a proposed Pakistan/Balochistan Mining Technical Assistance Project. The project aims to develop Balochistan mineral sector into a driver of economic growth for the province. It would assist the governments of Pakistan and Balochistan in implementing a strategy to accelerate sustainable mineral sector development by strengthening governance, transparency, and capacity in the management of mineral resources. In addition to policy, regulatory and fiscal reform supported by capacity building, and collection and dissemination of geodata; particular emphasis is given to the highly sensitive issue of mining & community development, and equitable sharing of mineral resource benefits. Balochistan was selected on the basis of good mineral potential for large scale mining and willingness of the provincial government to start reforms immediately.

2.3 REVITALIZING PETROLEUM

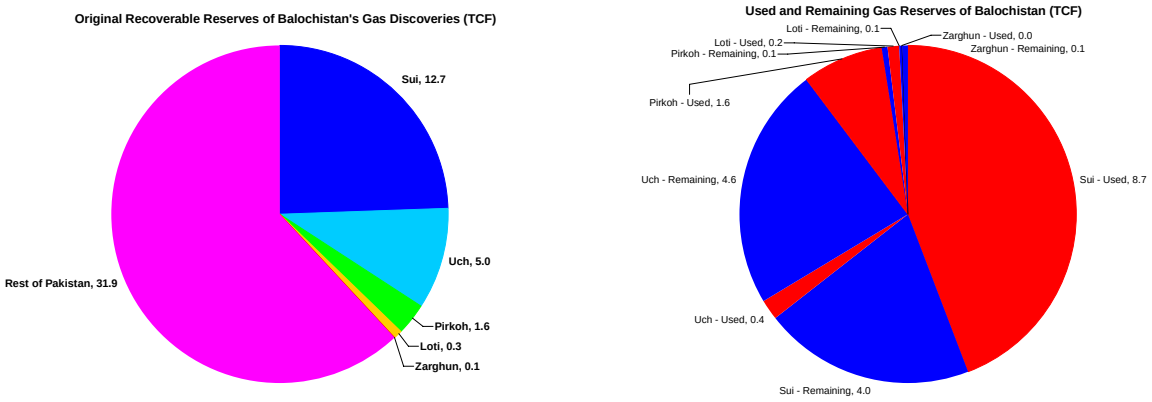
Little Exploration, Declining Production

2.54 Balochistan's natural gas sector is in a state of decline. In 1994/95, Balochistan produced 355 billion cubic feet (bcf) and accounted for nearly 56 percent of Pakistan's total output. A decade later, the province produced 336 bcf and contributed only 25 percent to national output. And as Balochistan gas supplies are exhausting, Pakistan is also running out of usable energy. About half of its energy needs are covered by natural gas reserves, which will decline in the absence of new discoveries.

2.55 This chapter argues that Balochistan's downward trend in gas production is not the result of a deterioration in the perceived prospectivity. Instead, it is a direct consequence of lack of investment in exploration and development due to security concerns. Companies prefer to invest in the Sindh portion of the Indus basin, just east of Balochistan's major production fields in Loti, Pirkoh and Sui. This decline could be reversed provided that a better *modus operandi* is sought to ameliorate the security situation; a more transparent mechanism is established for the sharing of the benefits from the use of the hydrocarbons with the local population in the producing zone; and the provincial government deepens its oil and gas expertise and actively supports private investors.

2.56 The level of exploration in Balochistan is incompatible to its size and potential. Only 55 out of 620 exploratory wells were drilled in Balochistan since 1884. Balochistan has one well per 6,312 km^2, and Pakistan has one well per 1,376 km^2. During the past five years alone, eight exploratory wells were drilled in Balochistan, as opposed to 118 wells in Pakistan. From the three sedimentary basins that straddle Balochistan, the Indus basin in the East has benefited from virtually all the exploration, whereas the Pashin Basin in the Northeast and the Balochistan basin in the Center and West, which cover over 90 percent of the province's land mass, have seen little exploration. Yet, exploration efforts in Balochistan have resulted in major discoveries, including Sui (discovered in 1952), Uch (1955), Pirkoh (1975), Loti (1985) and Zarghun (2002) (Figure 2.6). Thus the paradox: while Balochistan is home to Pakistan single largest discovery (Sui), and two-fifth of the original recoverable gas reserves, it accounts for less than one-tenth of exploratory wells.

Figure 2.6: Balochistan gas wells are depleting within the 15 years



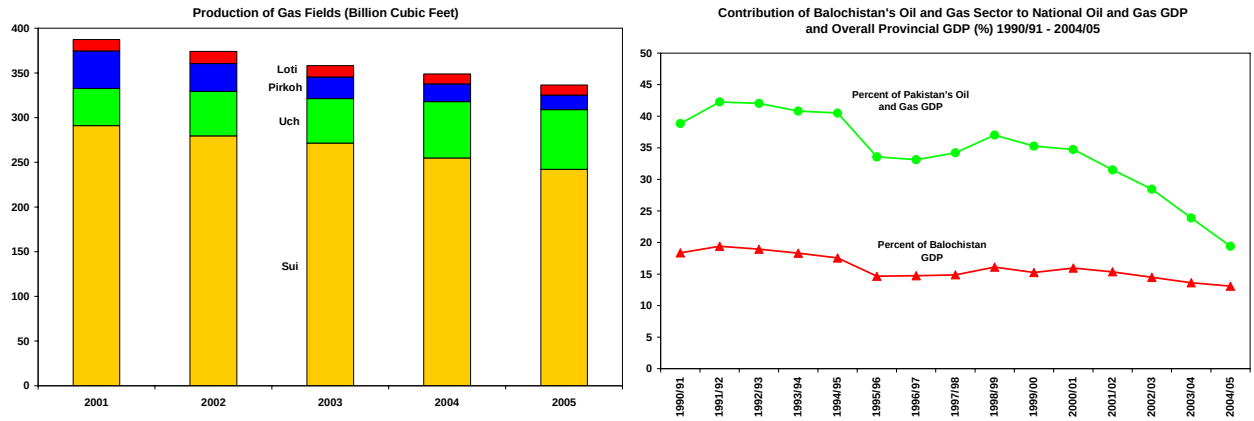
Source: World Bank

2.57 Exploration activity remains low even when concessions are granted. The Directorate General of Petroleum Concessions has granted licenses for 23 exploration blocks with a work program over a respectable $108 million in Balochistan. Eight of these blocks were signed over the past two years and one

would therefore not yet expect the execution of seismic surveys or the drilling of wells. However, in seven of the 10 blocks signed during 2000 to 2004, where activities should be at their peak, no activity recorded was recorded, and overall only six of the 23 blocks were active. In five of the blocks, companies have invoked the force majeure clause of their contract and suspended work or the government has itself denied the requisite "no-objection certificate" to the companies due to security concerns. This is the crux of the problem of Balochistan's gas sector. There is a keen interest by the industry to invest, with substantial funds committed, yet the conditions on the ground do not permit the conduct of exploration activity in accordance with expectations.

2.58 Insufficient exploration has resulted in few new discoveries. Less than one third of the reserves are left in Sui, and no more than 45 percent of the known gas reserves in the province overall. Uch is the only field with large remaining reserves, but the gas is of lower quality than in Sui. In calorific equivalent basis, the Uch reserves are just under half of what remains in Sui. The reserve depletion has already an impact on production. Volumes have declined since 2001 by about 3.5 percent annually, and Balochistan's share in national production dropped from 56 percent in 1995 to 25 percent only in 2005 (Figure 2.7). Shrinking production translates in sharp declines in the sector's contribution to the national oil and gas value added as well as the overall provincial value added. At current rates of production, the province's present reserves will be almost depleted within the next 15 years.

Figure 2.7: As Balochistan's gas fields are becoming less plentiful, their contribution to value added has declined



Source: World Bank

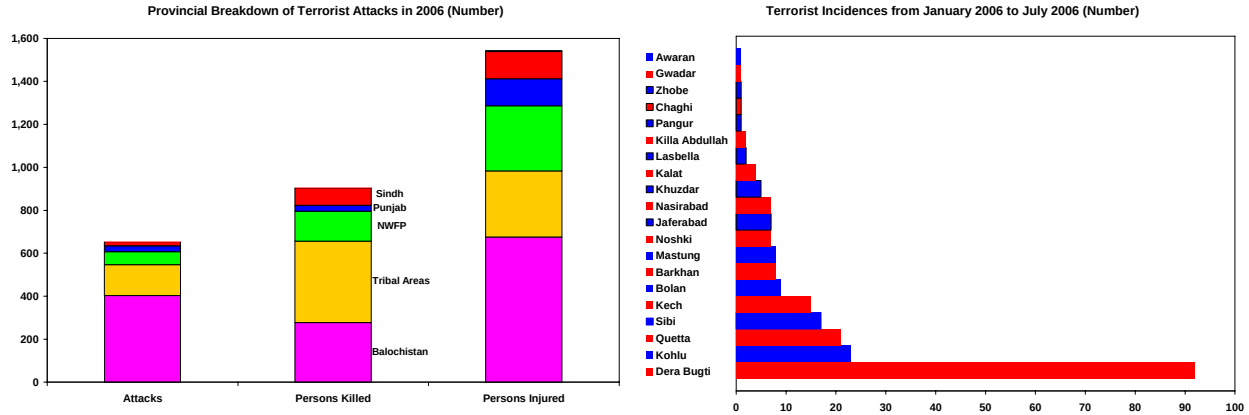
Security Failure

2.59 Security is the most important factor impeding the exploration and production activity in Balochistan. The gas fields of Sui, Uch, Pirkoh and Loti are all located in Dera Bugti, which is at the center of violent conflict. In 2006, there were 657 terrorist attacks in Pakistan, which left 907 people dead and 1,543 others injured. Over three-fifth of the attacks, close to one-third of the killings and almost one-half of the injuries took place in Balochistan (Figure 2.8, left panel). The security situation in the province was worse in 2006 than previously. The number of attacks in 2006 was almost twice as high as in 2002 to 2005.

2.60 The principal reason for this deterioration was the violent conflict between the security forces and the Balochistan Liberation Army and the Bugti Militia. Indeed, according to the data base of the Pakistan Institute for Peace Studies, the district Dera Bugti accounted for two-fifth of the 136 terrorist incidences reported in Balochistan during January 2006 through July 2006, which overall claimed 137 lives and 315 injuries (Figure 2.8, right panel). Similarly, neighboring Kohlu, a strong-hold of the Balochistan Liberation Army, nearby Sibi, as well as the provincial capital of Quetta represented over a quarter of the incidences.

By contrast, the security situation was satisfactory in Kalat, Lasbella, Gwadar, Awaran, Zhob, Chagai, Panjgur and Qila Abdullah; and Turbat, Makran, Jhal Magsi, Kharan, Killah Saifullah, Loralai, Musakhel, Pishin, Ziarat and Washik experienced no violent conflicts at all.

Figure 2.8: Balochistan accounted for three-fifth of all terrorist attacks in Pakistan during 2006, and most of them took place in and around Dera Bugti



Source: Pakistan Institute for Peace Studies

2.61 Until recently, levies of tribal recruits - jointly with the federal Frontier Corps - were in charge of securing law and order in Dera Bugti, as in about 95 percent of the provincial territory. This system dates back to British Balochistan: in any area with the presence of a "indigenous" majority, the maintenance of law and order was the responsibility of the local *malik* or *sardar* in accordance with customary codes. The levies were drawn from local tribes and placed under the nominal authority of the designated chief. While the levies systems continued to undergo changes – with administrative official exercising greater control over time – it is only since 2004 that there has been a policy of replacing them with the "regular" system of policing. Whatever the shortfall of traditional systems, the perceived flaws and corruption of the formal police system (Box 2.7) are part of the reason for the robustness of the customary approach to law and order. In any case, the challenge of securing these areas is enormous and only feasible with the involvement of all stakeholders. Beyond security agencies and policy, it will also require the cooperation of the local leaders.

Box 2.7: Creating conditions of accountability: the police

Police are delegated substantial powers—to compel and, if necessary, to use violence. What objectives should they pursue, and how could they be held accountable?

- "Client satisfaction" is not what should drive police, for who is the "client"? Certainly not the criminals, and certainly not just the victims: there are many objectives—creating a safe environment, apprehending criminals, respecting individual rights and dignity.
- Police cannot simply follow a script—they have to exercise discretion. If they went "by the book" and enforced every infraction, more important activities would grind to a halt.
- They rely on many co-producers. Without the cooperation of citizens in abiding by the law, reporting violations, helping in investigations, the job of the police would be impossible. And many determinants of crime are not under the control of the police, such as economic trends, social changes, and demographic shifts.

The recipe for inefficiency, abuse, and corruption: simply turn individuals loose with vague objectives, lots of discretion, little performance information, few mechanisms of enforceability (either internal or external), and the public authority to compel (and often too little budget). A frequent complaint of poor people is the abuse they suffer from the police. There are no easy answers. "Privatizing" policing functions would face the same problems: what would be the measure of output to determine what the firm should be paid? Crime rates? They are not under police control (and they would deter reporting). Arrests? That would encourage false arrests to meet production quotas. Surveys of citizen perceptions of safety? These risk overzealous police violating the rights of the socially disadvantaged to please the minority. Penalties for abuse of authority? Police might then do too little. Recent experience in several cities shows that there are no general "optimal" solution. But there are solutions to particular cases, better or worse in their adaptation to local circumstance. Creating more functional police services requires creating multiple institutional channels of accountability—political (police are not simply an instrument of oppression), compacts (policymakers can hold police in check), management (organizational strategies can inculcate dedication, loyalty, restraint), and client power (citizens have mechanisms to influence police behavior directly, a free press).

Source: WDR 2004.

Fiscal Repercussion

2.62 While the precarious security situation in Dera Bugti is the main culprit for the decline in gas output, its fiscal impact is felt throughout the province. Federal transfers of gas-related taxes are the principal revenue base of the Balochistan government. Balochistan benefits from income tax and GST returns generated by gas companies through its share in the "divisible pool" according to its population share. More importantly, the province also receives "straight transfers" in the form of the development surcharge, royalty and excise duty on gas allocated on derivation or production basis. Over the last five years, gas development surcharge (GDS), royalties and excise duty alone contributed about three-fifth of the provincial revenues.

2.63 Four points are worth noticing. First, provincial revenues from gas-related transfers declined in nominal terms by 10 percent from 2001/02 to 2005/06 (Figure 2.9, left panel). In spite of higher gas prices, Balochistan is already feeling the pinch from lower gas production volumes. Second, Pakistan tax regime on natural resources is in line with international practice by sharing gas and oil revenues in a transparent way through federal transfers rather than direct taxes by subnational governments.

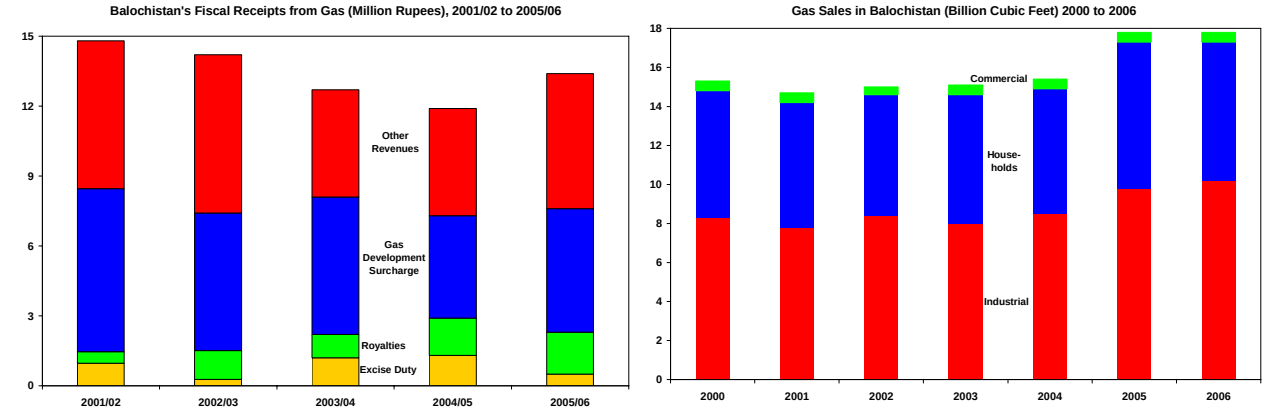
2.64 Third, GDS provides about three-fourth of the total gas-related fiscal receipts, but its contribution can vary sharply from one year to the next. For example, it declined from 2004 to 2005 and increased again from 2005 to 2006. GDS equals the difference between the prescribed and actual producer price for the Sui

field, and to the difference between prescribed tariff and retail price for the other fields in Balochistan. In both cases, it is subject to price setting by the federal government.

2.65 Fourth, there is much controversy around the level of gas royalities, which are fixed at 12.5 percent of the sales revenues. The sales price of gas is based inter alia on the year in which the concession was awarded. Under the new 2001 pricing framework, the wellhead price at which natural gas is sold to Pakistan's two transmission and distribution companies is linked to the international crude oil price and adjusted twice a year as notified by the Oil and Gas Regulatory Authority. Only Zarghun, a recent discovery amounting to just over one percent of Balochistan's remaining reserves and expected to start commercial production in 2009, falls entirely under the 2001 pricing regime. For projects launched prior to 2002, the price is also subject to the gas pricing policy in effect when the concession was awarded. This includes the Balochistan's fields of Sui, Uch, Pirkoh and Loti. Their prices were all set at absurdly low levels using a "cost-plus", formula. The Sui wellhead price was gradually increased over the last years up to 50 percent of the level of the 2001 pricing policy, which it reached on January 1, 2007. As a result, royalties have quadrupled in the last four years.

2.66 The determination of gas royalties is not the only long-standing gas-related grievance with the federal government. Natural gas was first discovered in 1952 in Sui in Balochistan, yet Quetta did not have gas until the 1980s, even though it was already provided to villages in Punjab. There is also progress in this regard. The Sui Southern Gas Company Limited (SSGCL) holds the franchise of supplying gas to households and industrial and commercial establishments in the province. Since 2000, the volume of gas sales increased annually by 3 percent (Figure 2.9, right panel). In addition, the number of households connected to the network increased by 5 percent annually to reach 154,000 in 2006. This implies that roughly 15 percent of the population have access to natural gas, not far below the 17 percent for Pakistan as a whole. SSGC is also setting up Liquid Petroleum Gas (LPG)–air plants in order to provide gas in remote towns that cannot be feasibly connected to the gas network. Due to the high cost of LPG and transportation, the cost of a MMBTU is of the order of Rs600, far in excess of the natural gas tariff of Rs126 when supplied by pipeline. Clearly, this initiative reflects the government's strong commitment to improving gas supply to Balochistan's population.

Figure 2.9: Gas-related straight transfers to Balochistan are on the decline, while gas sales in Balochistan are on the rise



Source: World Bank

2.67 Finally, just like for mineral companies, oil and gas enterprises are required is transfer resources to communities. Under the concession agreements, these companies are required to spend $10,000 per license-year during exploration and $25,000 per lease-year during the commercial production on government-agreed training programs of Pakistani employees and government officials. In addition, companies have to fund social welfare projects as agreed with the local community and the civil administration. During the

exploration stage, the required expenses amount to $10,000 to $20,000 depending on the zone of production; and during the commercial production stage, they vary from $20,000 to $250,000 depending on the amount of production.

2.68 The government holds majority stakes in Pakistan Petroleum Limited (PPL) and Oil and Gas Development Company Limited (OGDCL), which are the two active producers in Balochistan. Both companies have invested sums far in excess of these regulations into local communities. In and around Sui, PPL supports a school with 2,700 students, an adult literacy center, a scholarship program, and a field hospital. The company also funds local roads, a network to provide free natural gas to the 35,000 residents, as well as water supply, garbage collection and other municipal services. Similarly, OGDCL maintains medical, social and welfare facilities and creates local job opportunities through road and housing construction. OGDCL is about to set up two technical schools, one of them in Quetta, and will provide its students with a monthly stipend.

Way Forward

2.69 With gas fields exhausting, security worsening, fiscal receipts declining, and community support in doubt, Balochistan's gas economy is in urgent need of reform. A two-step strategy could provide the basis for a revitalization of the sector.

Involve Provincial Authorities

2.70 First, while petroleum and natural gas are federal responsibilities, the provincial government has an important role as facilitator. In the past, the Mining and Minerals Department was largely uninvolved in the activities of the sector. Last year, the provincial government took the welcome step of setting up an Oil and Gas Cell in the Minerals Department. In collaboration with the federal Directorate General of Petroleum Concessions, this cell can help to provide information to oil and gas companies and support the provision of security from the Home Department. Similarly, oil and gas enterprises should be encouraged to publish information annually on their activities, including the geophysical programs, the delineation of drilling initiatives and economic analyses. Equally, the provincial authorities could, on an annual basis, invite the oil industry as well as its main contractors for seismic and drilling work for a discussion on progress in improving the security situation. Such dialogue would help the provincial government to actively address concerns on security, infrastructure, or other issues inhibiting the exploration and production activities of companies.

Make Use of Gas Rents Transparent

2.71 Second, different government institutions are concerned with the collection, processing and transfers of oil and gas revenues. In order to enhance transparency and consistency, the government could prepare for the public an annual report on the production of hydrocarbons and the distribution of oil and gas rents, including taxes. In particular, the report could lay out the funding from oil and gas companies as well as the public sector allocated to programs in areas where exploration and production activities take place. In addition, the oil and gas companies should involve communities in the selection of social welfare programs.

2.4 GWADAR'S POTENTIAL

Long Standing Ambition

2.72 On 20 March 2007, the Prime Minister Shaukat Aziz inaugurated the deep-sea port of Gwadar, after the first three ships docked in the harbor. This auspicious occasion represented an important milestone for the most high profile, and among the most long-standing, development initiative of the Federal Government in Balochistan. Pundits have touted this project as key for transforming the Mekran coastline, launching Balochistan's development push and ensuring Pakistan's global competitiveness. As the development of Gwadar port moves into its second phase, this chapter takes a step back to assess its potential from an economic point of view, and to highlight what has to be done to allow Gwadar to reach this potential. The main conclusion is that Gwadar's economic viability is tied closely to a rapid integration of Pakistan into the global economy.

2.73 The deep-sea port of Gwadar is located near the entrance of the Straits of Hormuz in the Persian Gulf, which holds close to three-fifth of the world's crude oil reserves and almost half of the world's proven gas reserves. Pakistan's third harbor after the sister ports of Karachi and Qasim resides in the south-western corner of the country near the Iranian border at about 460 km distance from Karachi. The location is favorable as it offers a safe harbor climate, protection against waves and a short approach channel. Gwadar port is intended to develop into a storage and distribution center for transit trade from Central Asia and Western China, transshipment cargo of the region, and domestic freight. Originally proposed in 1993/94 as part of the transport plan of the 8th Five-Year National Plan, this two-phase project was launched in March 2002. Under the financial agreement over US$248 million signed with the Government of China in August 2001, US$198 million was funded by China through a grant, soft loan and buyers credit, and the rest by Pakistan.

2.74 Following international practice, Gwadar is being developed as landlord port. The Port of Singapore Authority (PSA), which runs ports in more than 10 countries, was contracted to manage the port on a build-operate-transfer basis for a 40-year concession period. Under the agreement, PSA committed substantial investments in return of an exemption from corporate tax over 40 years as well as abolishment of duties on imports of equipment and machinery for port development over 20 years. As a new port, Gwadar is not burdened by institutional legacies, such as Karachi's dock labor board, which may have lowered port efficiency and increased port tariffs. As a well-managed port with best-practice terminal operations, Gwadar can trigger a virtuous competition with Karachi and Qasim that helps to improve the global standing of Pakistan's ports overall.

2.75 With the completion of Phase I in March 2007, two years after schedule, Gwadar port comprises three multipurpose berths of over 600 meters and one service berth over 100 meters, including a 4.5 kilometers approach channel dredged to 12.5 meters. The port is suitable for bulk carriers of up to 30,000 deadweight tonnage (DWT) and container vessels of 25,000 DWT. The approach channel is already being deepened to 14.5 meters to allow access for large Post-Panamax container ships with capacities of up to 5,000 Twenty-foot Equivalent Units (TEU).[3] However impressive these achievements are, the port's current capacity is only approximately 3.5 million tons of traffic, as compared to Karachi port's capacity of around 40 million tons. As such, the port is not economically viable. The crucial issue is hence how Gwadar port's potential can be fully exploited in medium to long term through the Phase II implementation.

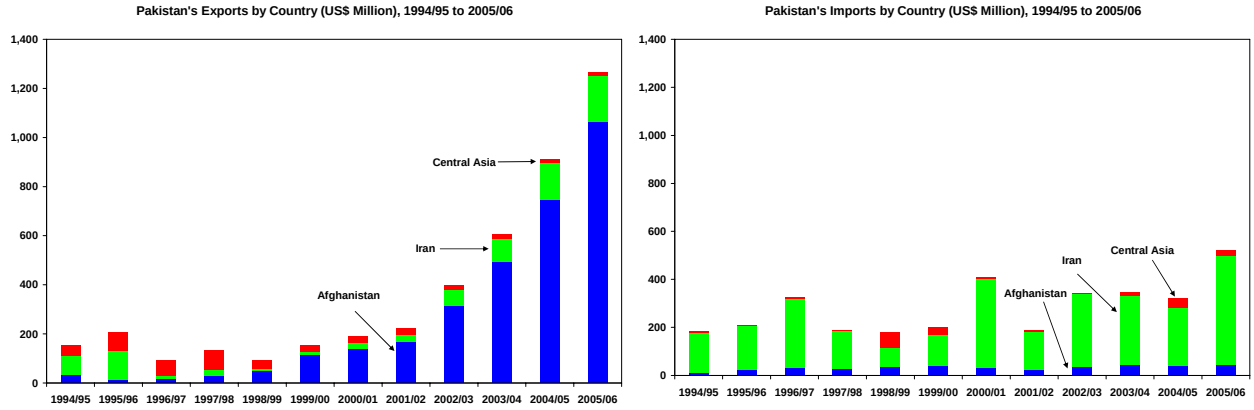
[3] TEU is the basic unit for measuring containerized cargo. One TEU is a measure of containerized cargo capacity equal to one standard container of 20 feet length, 8 feet width and 8.6 feet height.

2.76 Following the Government's medium-term master plan from 1996, revised and approved in 2002, and the 50-year master plan from 2006 prepared by Arthur D. Little, the rest of this section will explore Gwadar port's economic viability in four dimensions: (a) transit trade from the Central Asian Republics; (b) transshipment hub for the region; (c) alternative port for domestic in-bound and out-bound trade; and (d) catalyst for the Balochistan's economic development. The discussion will conclude with implications for infrastructure and port policy.

Transit Trade

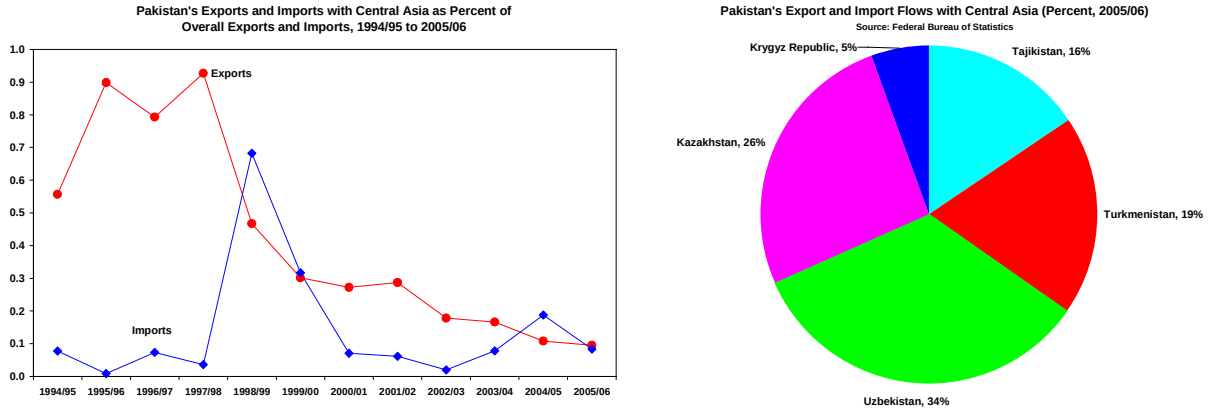
2.77 Much of the wider Central Asia region is landlocked, leading to low connectivity and low growth. Indeed, 20 out of the 31 landlocked development countries are low-income, and 9 out of the poorest 20 countries in the world are landlocked. Since 1960, landlocked countries have grown about 1.5 percent slower than non-landlocked countries (MacKellar et al 2000). Since Balochistan offers Central Asian countries access to international maritime hubs, this would suggest that transit trade can be a major growth industry for Gwadar port. However, while Pakistan has important trade relations with Afghanistan and Iran, there is virtually no trade — and hence virtually no transit trade — between Pakistan and their northern neighbors in Central Asia (Figure 2.10). Pakistan's exports to Central Asia declined from US$75 million in 1995/96 to US$16 million in 2005/06, and Pakistan's imports from Central Asia dropped from US$66 million in 1998/99 to US$24 million in 2005/06. They account now for only 0.1 percent of Pakistan's export and import flows. In addition, about one third of the trade with Central Asia takes place with Kazakhstan and the Kyrgyz Republic, countries that are located too far away to look towards the Makran coast for sea connectivity (Figure 2.11).

Figure 2.10: While trade with Afghanistan and Iran has taken off, trade with Central Asia has declined



Source: Federal Bureau of Statistics

Figure 2.11: Pakistan's trade with Central Asia is insignificant

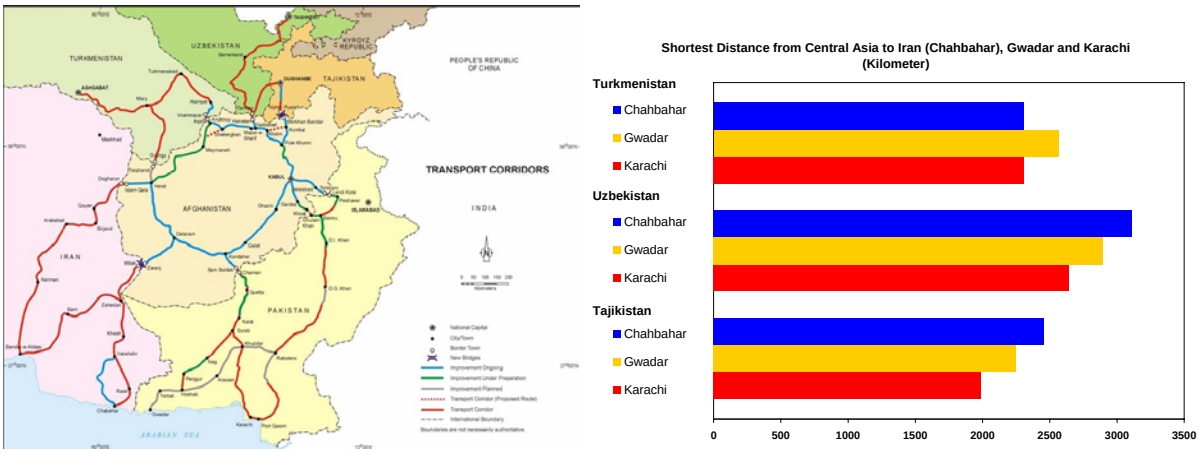


Source: Federal Bureau of Statistics

2.78 What explains this disappointing performance? First, Central Asian trade volumes are modest. In 2005, total trade of Turkmenistan, Uzbekistan and Tajikistan amounted to no more than US$24 billion, just over half of Pakistan's total trade volume of US$45 billion. Second, Afghanistan and Central Asia lack harmonized trade facilitation and transport infrastructure to compete with alternative trade routes. The post-Soviet Central Asian republics utilize Russia's well functioning railway linkages and road network to access markets in Europe and elsewhere. For example, Tajik and Uzbek cotton reaches the European Union through the Caspian Sea and Russia. Similarly, Russia's main access to the Persian Gulf presently is through the Caspian Sea and Iran, while China has direct access to Pakistan and the Indian Ocean through the Karakorum Highway (Byrd and Raiser 2005). Both of these alternative routes face fewer border crossings.

2.79 Third, even once the political stability in Afghanistan improves and the countries of the region join hands with international donors to make progress on removing bottlenecks in trade facilitation and transport infrastructure, Gwadar port will remain only one of many trading routes. Indeed, the Central and South Asian Trade and Transport Forum identifies no fewer than 52 routes from Turkmenistan, Uzbekistan and Tajikistan to Afghanistan, Pakistan and Iran (Box 2.8). Karachi rather than Gwadar port would be the potentially cheapest and quickest transit routes to and from Tajikistan, Uzbekistan, and the Kyrgyz Republic, regardless of whether the agreement between President Musharraf and his Uzbek counterpart Karimov from May 2006 to develop rail and road links is implemented or not. And Karachi as well as the Iranian port of Chabahar are better situated for trade with Turkmenistan or Kazakhstan (Figure 2.12). While Pakistan is investing substantial resources to improve Gwadar's transport connectivity, these efforts will not change the basic equation, especially as Iran is also improving the transport links to its harbors.

Figure 2.12: The shortest route to the sea does not end in Gwadar for the three Central Asian countries



Source: Asian Development Bank (2005).

Box 2.8: Central-South Asian road corridors

Road corridors connecting Tajikistan, Turkmenistan, and Uzbekistan to the ports of Iran and Pakistan go through Afghanistan are essential for promoting regional trade. Tajikistan exports aluminum, electricity, cotton fiber, and manufactured products; Turkmenistan sells cotton, natural gas, oil and manufactured products; and Uzbekistan exports cotton, uranium, gold, natural gas and manufactured goods. Intra-regional trade flows are dominated by energy, rice, wheat, cotton, fruits, vegetables, leather goods, sporting goods, surgical instruments, wood, wool, sugar, synthetic fabrics, construction materials, and assorted manufactured items.

Asian Development Bank (2005) proposes 52 road corridors over 13,600 kilometer length with a price tag of US$5.6 billion, US$1.6 billion and 3,700 kilometer of which would accrue to Pakistan. Out of these 52 road corridors, 31 connect through Pakistan ports and 21 through Iran ports. The corridors originate in Tajikistan (Dushanbe), Uzbekistan (Tashkent), or Turkmenistan (Ashgabat) and enter Afghanistan at Shirkhan Bandar or Hairatan (from Tajikistan), Hairatan (from Uzbekistan) and Aqina or Torghandi (from Turkmenistan). The corridors then exit Afghanistan to Pakistan's ports at Torkham (towards Karachi/Port Qasim) or at Spin Boldak (towards Karachi or Gwadar) and for Iran's ports at Zaranz (towards Bandar e-Abbas or Chabahar) or Islam Qala (towards Bandar e-Abbas). The report argues that the economic impact would be substantial, whether measured by incremental travel cost savings, incremental GDP gains per dollar or corridor investment, or incremental export and import volumes and revenue growth. For example, relative to the 2002 baseline, growth in intra-regional trade and GDP are estimated to be 160 percent and 0.43 percent, respectively, greater than without the corridors for the six countries. The corresponding numbers for Pakistan are 422 percent and 0.28 percent.

Source: ADB (2005).

2.80 Overall, while most discussions on the potential for Gwadar port highlight transit trade with Central Asian countries, our assessment coincides with the findings of the 50-year master plan. Demand forecasts for long-distance transit trade through Gwadar port should be cautious. However, there is one important caveat. China, with its vast and rapidly growing economy, may offer greater potential for transit trade (Box 2.9). Presently, China imports oil from the Middle East and transports it through a long route around its east coast. Gwadar, placed near the strategic energy traffic hub of the Straits of Hormuz and in closer proximity than Iran's rival ports, could serve as China's energy transfer station, especially once the port has adequate road and rail linkages with the Karakoram Range in northern Pakistan. Oil and gas could be shipped from the Gulf in one day, and from Chinese oilfields in Sudan in three days to a dedicated setup of storage and refining facilities at Gwadar, and then be transported via land route to China's Xinjiang province.

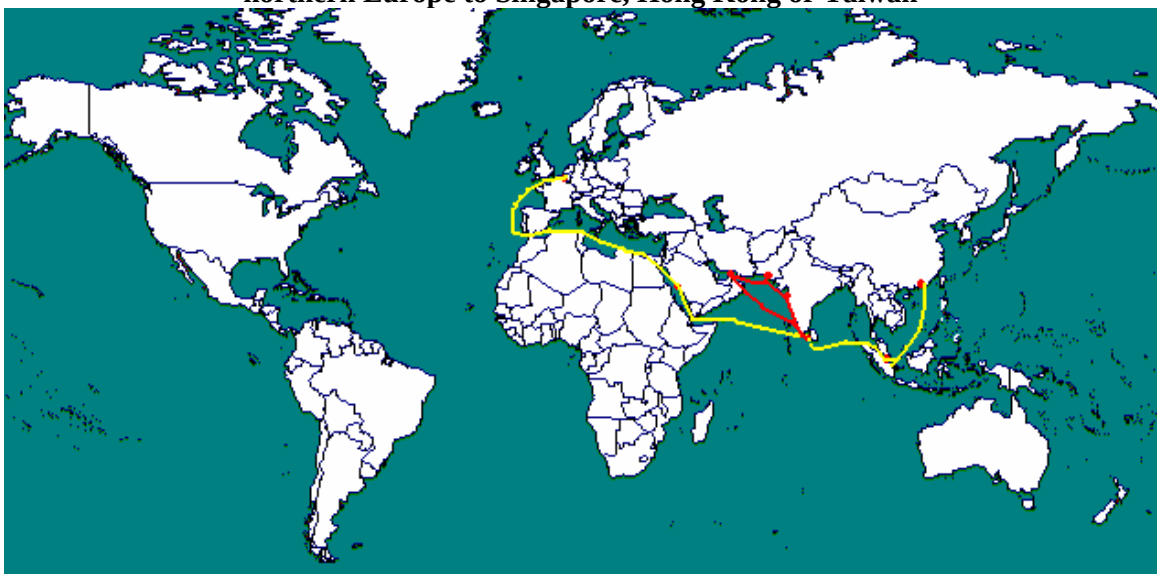
Box 2.9: Gwadar as China's energy hub?

In 2006 during a Pakistan visit of the President to China, the two countries agreed in principle to set up a Gwadar Port Energy Zone, and a China-Pakistan Energy Corridor for the provision of oil products and gas supply from Gwadar. The specific steps outlined in the agreement included designating Gwadar as China's port access to the waters of the Arabian sea; the setting up of a major refinery at Gwadar with 21 million tons of capacity (roughly twice Pakistan's present total refining capacity); development of an oil tank farm with 1 million tons of storage capacity; setting up of LNG terminals and storage centers for natural gas; and improvement of road networks, such as the widening of the Karakoram Highway for the transportation of oil products by tankers. There were also discussions regarding the establishment of a Chinese Industrial Zone with significant Chinese private investments in steel, cement, and oil refining and storage. These bilateral discussions with China are at a very early stage and there are at present no concrete agreements have been reached on the specifics and the timelines involved.

Transshipment

2.81 Transshipment cargo is freight that is transferred from bigger vessels that call at the limited number of larger ports – the hubs – onto feeder vessels that serve the smaller ports, and vice versa. On the East-West main line routing, which carries heavy traffic on the world's largest container ships, the major shipping lines use a hub and spoke system for their global shipping network (Figure 2.13). Gwadar's strategic location could make it attractive as regional transshipment hub. It is close to the main shipping routes into and out of the Straits of Hormuz, and could be integrated into the set of port connections within the Persian Gulf. For example, the revised 2002 master plan projects that a bulk of the container traffic at Gwadar would consist of transshipment and the storage of empty containers.

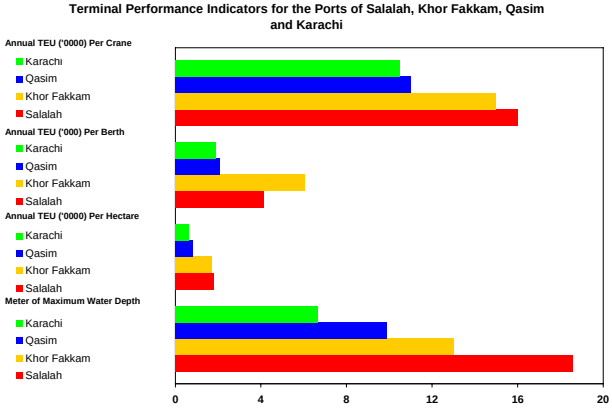
Figure 2.13: Pakistan is connected through feeder services to the East-West main line routing from northern Europe to Singapore, Hong Kong or Taiwan



2.82 However, Gwadar port will face intense competition from existing and upcoming ports for gaining a foothold in the regional transshipment traffic. There are a number of ports in the Arabian Sea area that compete for this trade, especially in containerized cargo. Currently, Salalah in Oman and Khor Fakkam in the United Arab Emirates function as transshipment hubs that provide feeder vessels to the rest of the Gulf region, India and Pakistan. Whether Gwadar port will be able to attract significant traffic away from these

established transshipment ports will depend on a number of factors. They include the ability of Gwadar port to offer efficient management, attractive port access parameters such as depth and congestion; and competitive port fees. For example, Salahah and Khor Fakkam outperform systematically Qasim and Karachi relative to four terminal performance indicators (Figure 2.14, left panel). In other words, Gwadar port would have to be more efficient than the other two Pakistani ports in order to compete successfully with the existing regional transport hubs. In this context, a deterioration in the regional security situation in the Gulf region or Iran would raise insurance costs of ships heading into the Persian Gulf, including Khor Fakkam. This would imply a price advantage of ports like Gwadar that are located just outside the Straits of Hormuz – as long as the security concerns do not spill over to Pakistan.

Figure 2.14: Karachi and Qasim fair poorly in terminal performance indicators relative to Khor Fakkam and Salalah, the main regional transshipment hubs. In future, the number of container ports could increase from 27 to 39



Source: Word Bank.

2.83 While there is no shortage in today's competition among regional ports, most countries around the Arabian Sea are in process of expanding their port capacity either through expansion of existing ports or the construction of new ports (Table 2.5). Driven by the rapid expansion in global trade and national economies, the number of regional container ports could increase from 27 today to 39 in the near future (Figure 2.14, right panel). Clearly, the inherent advantages of established ports and the extent of the regional competition suggest that transshipment is unlikely to be the principal motor for Gwadar's development over the medium term.

Table 2.5: Most countries in the regions are expanding their port capacity

Country	Port / Terminal	Expansion Plans
Saudi Arabia	Jeddah	In June 2006, it was announced that the handling capacity of Jeddah Islamic Port (JIP) will increase from the present 3.5 to 5 million TEU per year, following the signing of a US$443 million development and operation contract between the Saudi Seaports Authority (SSA) and Tushdeer, a subsidiary of Saudi Industrial Services Company (SISCO).
Somalia	Doralah	Plans have been developed for the construction of a new Container (transshipment) Terminal and Free Zone at Doraleh, at 11 km from Djibouti.
Yemen	Mukalla	Consultants have prepared reports for a large container transshipment facility near Mukalla
Oman	Salalah	In the beginning of 2005 the Government of Oman gave the green light for the expansion of the port. This will include two more berths with a total length of 970m and a depth of 18m alongside. A 2.8 kilometer long breakwater will also be constructed to provide protection to the expanded port area.
	Mina Qaboos	The Mina Qaboos Port Authority has launched plans to increase its container handling capacity, productivity and throughput, through expansion of the facilities and the purchase of additional container handling equipment
	Sohar	Containers have also become a target. In 2005 SIPC signed a joint venture agreement with Hutchison Port Holding (HPH), stevedoring company Steinweg, the Government of Oman and local Omani investors to form the Oman International Container Terminal (OICT) that will operate the new container terminal in Sohar.
UAE	Fujairah	In March 2005 DPW signed a 30-year concession contract (including a possible 20-tear extension) to develop and operate the container terminal at the Port of Fujairah.
	Mina Saqr	In 2005 the UAE Government awarded a US$45 million BOT concession contract to Kuwait Gulf Link that includes building and operating a container terminal, reconstruction of some existing berths and the purchase of equipment.
	Dubai (Mina Rashid and Jebel Ali)	The Master Plan for Jebel Ali is to increase its capacity to 21.8 million TEU by 2020, whereas the combined capacity of Mina Rashid and Jebel Ali is expected to reach 35 million TEU by 2030.
Iran	Bandar Abbas	In May 2006, PSO announced its plans for a four-fold increase of container handling in Bandar Abbas (Bandar Shahid Rajaee) from 1.4 million TEU to 5.7 million TEU.
	Chabahar	In 2004, the Port and Shipping Organisation (PSO) signed a US$100 million contract with a consortium of Indian companies to set up a container terminal in Chabahar.
Pakistan	Qasim	Recently in the maritime press there were reports of discussions of deepening the Port of Qasim and the development of a new container terminal in Qasim.
India	Pipapav	APM Terminals was reported to be considering investing US$200 million, increasing the design capacity to 1 million TEU.
	Mumbai	In 2005, the Mumbai Port Trust (MPT) requested bids for the development and management of a new offshore container terminal, estimated to costing the range of US$265 million.
	Nhava Sheva	In 2004, a license agreement was signed between the Jawaharlal Nehru Port Trust (JNPT) and Gateway Terminals India (GTI) for the development and management of the third container terminal at JNP.
	Kochi/Vallarpadam	In 2005 DPW and Kochi Port Trust (KoPT) signed an agreement to operate the present Sanjiv Gandhi Container Terminal (SGCT) at Kochi and to construct, develop and operate the International Container Transshipment Terminal (ICCT) at Vallarpadam at a total cost of US$500 million.
Sri Lanka	Colombo (Jaya Container Terminal (JCT))	In mid-2005, the Sri Lanka Ports Authority (SLPA) decided to carry out Detailed Design and Project Management of a project to extend the Jaya Container Terminal southward by 120m with the objective to increase the capacity to accommodate mega container carriers.
	Colombo (South Harbor)	The proposed Colombo South Harbor will be located west of the present South West breakwater in an area of approximately 600 hectares. It will have twelve berths and a harbor basin area of 290 hectares.

Source: World Bank.

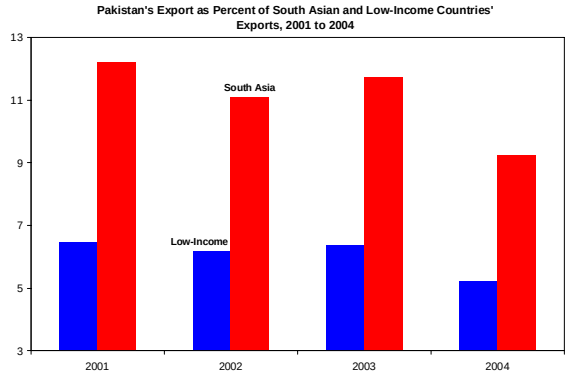
National Export and Import

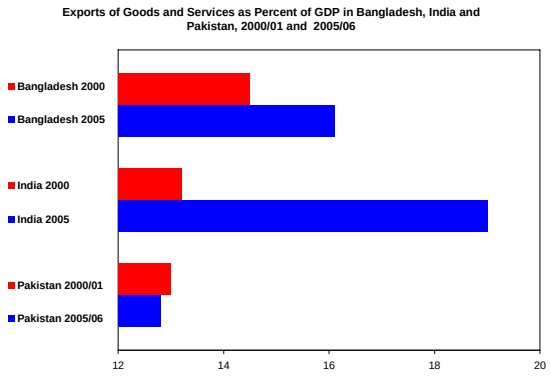
2.84 The potential for Gwadar port is inherently linked to the performance of Pakistan's economy. If the trade volumes continue to grow at a healthy rate in line with an expanding economy, then Gwadar will soon emerge as an important national import and export hub in view of the capacity constraints at Karachi and Qasim. While the recent export performance has been disappointing (Box 2.10), Pakistan's macroeconomic strategy relies on improving trade competitiveness and deepening trade relations with the rest of the world.

For example, the Government of Pakistan projects its export to GDP to increase from 12 percent in 2006/07 to 14 percent in 2010/11. Over the last decade, Pakistan's total trade volume increased at an average annual rate of 9.3 percent, from roughly $20 billion to $45 billion. From 1996/97 to 2005/06, imports rose by an annual rate of 10 percent, and exports by 8 percent. This translated into growth of containers (in TEUs) by 11 percent, dry cargo (in tons) by 5 percent, and liquid cargo (in tons) by 0.5 percent. Over the last five years, the growth rates of imports and exports were even higher due to the economic turnaround. From 2001/02 to 2005/06, container traffic and dry cargo grew by 18 percent and 13 percent, respectively. From 1996/97 to 2001/02, the corresponding growth rates were only 6 percent and -1.1 percent, respectively.

Box 2.10: Pakistan's export-less economic recovery

Export-led growth has been the hallmark of most of the development success stories, be it Korea and Malaysia, or more recently, China and Vietnam. Pakistan's growth decade during 1980s, when exports rose by around 4 percent of GDP, or India's and Bangladesh's latest expansions are no different. Yet, in Pakistan's current economic recovery, exports have stagnated relative to the size of the economy. During this fiscal year, exports are likely decline to no more than 12 percent of GDP, and Pakistan is now the least export-oriented economy among the major South Asian countries.





Source: World Bank.

2.85 Even allowing for capacity expansion plans at Karachi and Qasim and only modest growth in port traffic, there will be a significant shortfall in port capacity within the next ten to fifteen years without a third port. Historically, the income elasticity of domestic cargo varies between 1.5 and 2. Assuming Pakistan's GDP grows in the future by 6 percent annually – one percent less than what is stipulated in Pakistan's Vision 2030, then container traffic should expand at an annual rate in the range of 9 percent to 12 percent. The corresponding elasticities for dry cargo are somewhat lower. Figure 2.15 shows the likely shortfalls for container and dry cargo traffic under the following conservative projections:

- On container traffic, the base case scenario assumes growth of 9 percent until 2016, and 6 percent until 2026; and the high case scenario assumes growth of 11 percent until 2016 and 9 percent until 2026.
- On dry cargo, the base case scenario assumes growth of 7 percent until 2016, and 5 percent until 2026; and the high case scenario assumes growth of 9 percent until 2016 and 7 percent until 2026.

2.86 For container traffic, the shortfall would amount of to 0.3 million TEUs by 2016 and 2.1 million TEUs by 2026 under the base case, and to 1.1 million TEUs by 2016 and 6.4 million TEUs by 2026. For dry cargo, the shortfall would amount to zero by 2016 and 12.5 million tons in the base case, and to 5.6 million tons by 2016 and 35.6 million tons by 2026. Under the base case in 2026, the shortfall relative to today's combined capacity at Karachi and Qasim is just over 100 percent for container traffic and close to

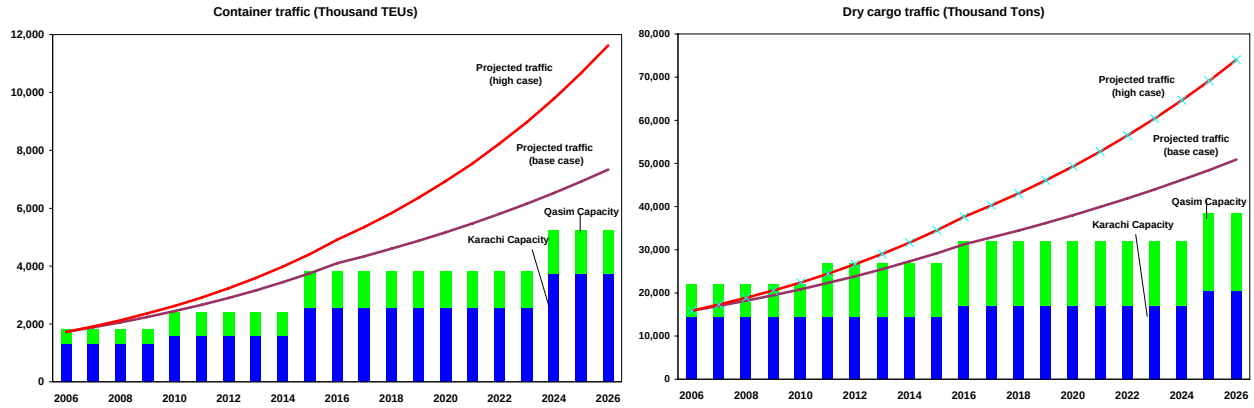
60 percent for dry cargo. For liquid cargo, excluding any energy transit trade with China or other countries, a shortfall of the capacity at Karachi and Qasim would emerge towards the end of the next two decades.

Box 2.11: Capacity Expansion Plans for the ports of Karachi and Qasim

Excluding container terminals, the capacity for dry cargo at Karachi port is 14.5 million tons per annum (13 berths of 150m each, with 7500 tons/meter of quay length). Future expansion plans include reconstruction of the present berths and involvement of the private sector in setting up dedicated terminals.

The capacity for dry cargo at Qasim port is 7.5 million tons per annum (3.5 berths of 200m each, with 7500 tons/meter of quay length, plus the iron ore and coal berth for the Steel Mills). Future expansion plans include one new grain and fertilizer terminal and one new coal and clinker terminal, each with 2.5 million tons of capacity. They are expected to become operational by 2010. In addition, the steel mill will be expanded through a second iron and ore berth with 3 million tons capacity. Moreover, under the master plan of Port Qasim Authorities, six additional terminals are to be developed over the next 30 years.

Figure 2.15: The projected port traffic is likely to exceed the available capacity at Karachi and Qasim within the next decade



Source: World Bank

Industrial Development

2.87 As specified in the city master plan prepared by the Gwadar Development Authority, the government foresees the port as acting as a catalyst for the development of a major industrial cluster in Gwadar (Box 2.12). This entails the setting up of a special economic zone of 4,000 hectares, an export processing zone of 74 hectares, and a provincial industrial estate of 3,000 acres with self-generated electricity and a desalination plant (Box 2.13). As highlighted in the 50-year master plan, these initiatives are intended to turn Gwadar into an industrial powerhouse of national importance, and ultimately contribute to Pakistan's transition into a booming industrialized middle-income country (Box 2.14).

Box 2.12: A port as catalyst for industry clustering: the case of the port of Sohar

Sohar Industrial Port, located in Oman and operational since 2003, is a good example of how a port can spur an agglomeration of industrial activities. The port is a landlord port managed by the Sohar Industrial Port Company, which is a joint venture with equal stakes between the Government of the Sultanate of Oman and the Port of Rotterdam. A consortium led by Hutchison Port Holding (HPH) is in charge of the container terminal. The terminal consists of two berths with a total length of 520m, equipped with Post-Panamax cranes and a depth of 16m alongside. By end 2007, an additional 970m quay with a depth of 18m will become available.

The port's main advantage is that it has a direct pipeline link with the LNG fields in Oman. This connection has attracted industries that use LNG as a basic product or require large quantities of energy. Substantial private sector investment has started flowing into the industrial zone near the port. The Oman Oil Company has set up a major refinery, which has in turn attracted petrochemical and chemical downstream industries. Presently, fertilizer, steel, polypropylene, and methanol plants are being built as well as a number of small-scale industries that use the petrochemical and chemical outputs as inputs in their industrial activity. Potential future projects include an alumina smelter, an electric arc furnace (steel production), an ethylene dichloride plant, a polyethylene plant and fish and food processing plants. To date, the total investment by the private sector is above US$ 10 billion, and is likely to increase considerably in the near future.

Box 2.13: Gwadar's development spur

Gwadar, a small town 480 km west of Karachi, has witnessed a boost of activity over the last few years. Speculation about an impending economic boom due to Gwadar port, the doubling to tripling of population size from around 45,000 in 1998, and the sharp reduction in travel time from Karachi gave rise to a real estate boom. This brought prosperity to the town as the land owners sold their lands to real estate developers from other provinces. However, during the last two years, the price of real estate has come down to about half from their peak levels due to the overall slump in property prices in the country, and the slow progress in the development of housing estates.

The newly developed Gwadar Industrial Estate (GIE) is situated about 40 km outside the city along the Mekran Coastal Highway. It measures 3,000 acres for 2,000 industrial plots, of which 1,100 acres have already been allotted. The plots in Gwadar Industrial Estate are priced at Rs1.5 million per acre. This compares to a price of Rs3.5 million per acre in Sundar Industrial Estate at Lahore, which offers close proximity to raw materials, markets and skilled manpower. The infrastructure activities have entered the final stage of completion. One crucial issue is the provision of water at affordable prices, as fresh water is lacking and desalination plants are energy-intensive. Ultimately, GIE's viability will depend on the success of Gwadar port in spurring local industrial development.

Box 2.14: Gwadar and Pakistan's Vision 2030

The Vision 2030 foresees Pakistan's economy to grow by 7 percent per annum up to 2030. The expansion will be driven by a vibrant industrial sector whose GDP share will increase from 26 percent in 2005 to 38 percent in 2030. The engine for growth will be manufacturing whose GDP share will rise from 18 percent in 2005 to 30 percent in 2030. Pakistan's industrial base will be broadened through diversified investments in engineering goods, electronics, automobiles, machinery and supporting industries. By contrast, the contribution of the service sector to GDP will remain unchanged at around 52 percent, while the one of agriculture will decline from 22 percent to 10 percent.

Developing Gwadar as an industrial powerhouse can help to address the following weaknesses in Pakistan's economy:

- Pakistan's growth in the current decade has been driven by domestic consumption. Exports have remained around 13 percent since 2000/01.
- Petroleum and petroleum products are Pakistan's most important import, reflecting the lack of exploitation of Pakistan's own energy resources.
- Textile related products contribute around three-fifth of overall exports, and textile related machinery is Pakistan's second most important import category. The domination of this sector makes the economy vulnerable to weaknesses in the textile sector's competitiveness and global market shares.

Gwadar can play a key role in Pakistan's move towards industrialization (50-year master plan):

- Agriculture: Upgrade the fisheries industries and increase export contribution.
- Industry:
    - Increase manufacturing share of GDP and industrial diversification.
    - Facilitate the exploitation of Balochistan's mineral resources.
    - Gwadar as a model of industry-education partnerships and integration.
    - Gwadar as a primer for infrastructure development in Balochistan.
- Export development:
    - Increase export share, especially to the Middle East.
    - Gwadar as a model of efficient trade policies and procedures.

2.88 The economic geography literature argues that the clustering of economic activity depends on a feedback process. Initial advantages, such as sea access and availability of a port, can bring prosperity to a locality through a self-enforcing economic dynamism. Firms have an incentive to locate close to each other at this favorable locality to increase productivity through thick markets with strong backward and forward linkages and adequate skills of the labor force. Economic zones that offer reliable infrastructure can stimulate migration of local industries to the port. Gwadar's competitive advantages will be particularly attractive to companies relying on low land costs, proximity to the Gulf region and its energy supplies and Balochistan's mineral and agricultural resources (Table 2.6).

Table 2.6: Gwadar's Competitive Advantage and Industrial Development Potential

Competitive Advantage	Industrial Opportunities
Greenfield, low land cost	Land intensive industrial complexes, such as steel mill
Low labor cost	Labor intensive sectors, such as textiles
Proximity to oil and gas resources	Oil and gas related processing and downstream industries, such as petrochemicals
Proximity to fast growing Gulf states	Export industries that meet Gulf states' import needs, such as automotive
Proximity to major shipping lanes	Ship services related industries, such as ship supplies
Some agricultural resource, including coastline	Food processing, such as juice extraction, fisheries, aqua-culture and fish-processing
Some mineral resources	Minerals processing, such as building materials
Short access channel, deep draft, short turnaround times	Industries that require large export-import quantitities and ship sizes, such as oil refining

Source: Arthur D. Little Gwadar Port Master Plan.

2.89 Three factors will influence Gwadar's contribution to Pakistan's industrial development. First, policies and infrastructure have to be right: economic policies have to be investor-friendly; power, water and transport connectivity adequate; port facilities well run; initial industrial development projects be successfully implemented; and private sector opportunities be pro-actively marketed. Second, given the absence of a captive market at Gwadar today, it will be essential for Gwadar to generate a critical amount of traffic to generate incentives for firms to cluster. Third, the emergence of Gwadar as industry cluster will remain uncertain for a long time, as the new port will have to overcome the locational disadvantage of the large distance to Pakistan's cities. A good connectivity for Gwadar not just lowers transport costs for the new port, but also lowers the costs for firms to supply this location from production centers established elsewhere. Most importantly, manufacturing firms tend to reside nearby urban centers to minimize transport costs, access a large labor pool and realize scale economies. Firms in need of a large plant site are attracted to the urban fringe, as it shares some of the agglomeration advantages, such as proximity to export facilities and input supplies, but avoids some of the disadvantages, such as high land cost (Box 2.15). These considerations are reflected in plans announced in April 2007 by the Government of Pakistan to develop a second port in Balochistan at Sonmiani, some 45 km to the northwest of Karachi.

Box 2.15: Thailand's Eastern Seaboard Program

As part of the general policy switch from import-substitution to export-promotion, Thailand launched the Eastern Seaboard Program in the 1980s with the support from the Japanese government's Overseas Economic Cooperation Fund. This was Thailand's most ambitious attempt to promote infrastructure-led development of an area some 190km outside of Bangkok. The project was organized around the newly discovered natural gas supply in the Gulf of Thailand. The plans included initially large scale investment in heavy industry, ranging from steel mills to gas and oil processing. In the end, these most ambitious projects were scaled back for financial reasons, but two sea ports (Map Ta Phut and Laem Chabang), a sizeable industrial estate and an export promoting zone were established. The export-oriented factories were a success and contributed to the export boom in the late 1980s and early 1990s as well as the economic recovery from the Asian Crisis. By 1997, 200 companies had relocated from Bangkok to the Eastern Seaboard.

Way Forward

2.90 Most of the discussion on Gwadar has focused on transshipment and on transit trade with Central Asia. This chapter argued that the medium to long term potential rests primarily on serving the national market. If Pakistan's trade volumes continue to grow at a healthy rate over the next ten to fifteen years, then the capacity constraints at Karachi and Qasim will generate substantial business for Gwadar. Additional

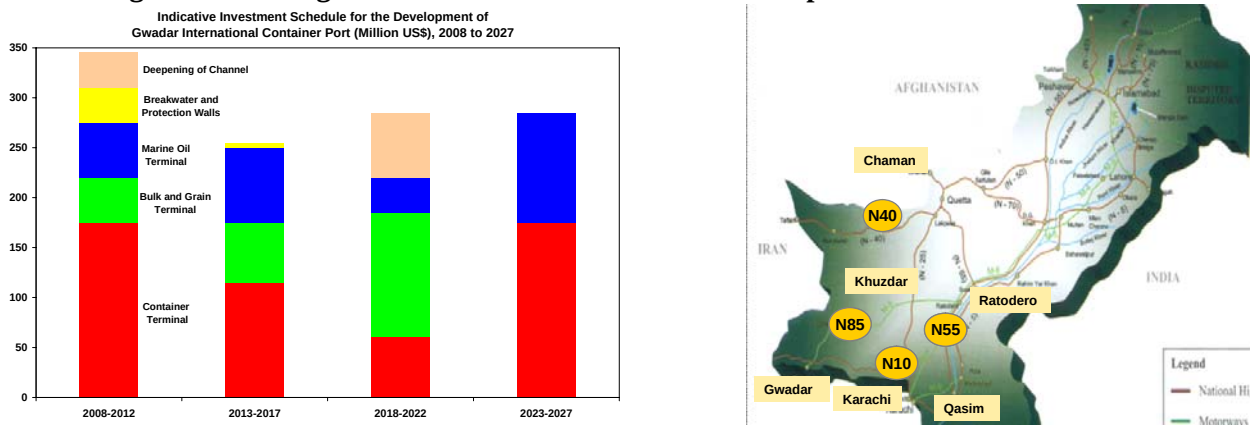
business may well arise through transit energy trade with China, as well as industrial development, but these prospects are less certain. In any case, to prepare Gwadar to make the most of emerging opportunities, considerable investments in hard and software are needed.

Hardware

2.91 The discussion so far highlighted that Gwadar's main development potential lies in national import and export. In addition, the new port may succeed to spur the growth of an industrial cluster, but this scenario is contingent on strong port traffic and will only emerge over the long term. In view of Gwadar's small size after Phase I completion as well as the tough competition from other national and regional ports, making this happen will require substantial Phase II investments in port infrastructure. The total amount required over the next two decades or so would be in the order of US$1.2 billion, or about five times the sum invested to date. These investments would have to phased in line with the emerging traffic flows (Figure 2.16, left panel), and financed in partnership with the private port operator.

- The high case scenario for national traffic projections for container and dry cargo suggest that Phase II will require three berth container terminals capable of receiving 100,000 DWT (or 8000 TEU) container vessels, one bulk cargo berth, and one grain handling berth, for a total tentative cost of approximately $800 million over the next fifteen to twenty years.
- For the navigation of these larger ships, the approach channel and basin would also have to be deepened to 17m, and a 600m long breakwater will need to be provided for protection during the monsoon season, which would together cost an additional $100 million.
- If transit trade for oil and gas to China develops, then there will initially be the need for a Single Buoy Mooring (SBM) system and submarine pipeline, followed by a two-berth liquid cargo terminal, costing in total roughly $275 million.

Figure 2.16: Large Phase II investments are needed for port and road infrastructure



Source: World Bank

2.92 The port infrastructure will be incomplete without the provision of reliable utility services:

- *Electricity.* Three initiatives are being pursued. First, upgrading of the Pasni grid station and transmission lines can provide about 35 MW at a cost of US$10 million. Second, four additional grid station and transmission lines are planned in Gwadar, providing 10 MW at a cost of US$17 million. Third, Pakistan's Water and Power Development Authority and Iran agreed on February 2007 to construct a 170 km transmission line from Polan in Iran to Gwadar. This would generate 100 MW at a cost of US$86 million.
- *Water*. Fresh water is scarce along the Balochistan coast. Gwadar city's current supply of around 1.5 million gallons per day from various dams will insufficient to meet the medium-term needs. The government is already enhancing the capacities of a number of water reservoirs

(such as the Sawar Kaur, Belar, Akra Kaur, Saji, and Mirani dams). In addition, it is seeking private sector investments into desalination plants. Since large-scale seawater desalination plants are energy-intensive, it would be important to initiate a systematic feasibility study for water and energy efficient seawater desalination plants. The government should also explore how the available surface and groundwater resources can be tapped and brackish groundwater can be desalinated.

2.93 Beyond port infrastructure, a successful port requires a series of coordinated, complementary investments in connectivity. Already, the National Highway N-10 (Mekran Coastal Highway) links Gwadar to Karachi and has demonstrated how good roads can reduce transport costs dramatically. The 533km Mekran coastal highway, zigzagging from Karachi up to Gwadar along the Arabian Sea and through the hinterland of southern Balochistan and inaugurated in August 2001, has cut the transport time along the Gwadar-Karachi route from 3 days to around 10 hours. The number of coaches plying on this route has increased to 60 daily from less than 30, boosting the number of passengers from less than 900 to around 2,400. While the Mekran Coastal Highway could be upgraded to reduce winding curves and steep gradients, it has provided good connectivity to Karachi. Similar road linkages are now needed for the main markets in Punjab and NWFP (Figure 2.16, right panel):

- *Road 1.* Given the importance of export-import traffic for Gwadar port, the connection to the National Trade Corridor through the extension of the N-85 from Gwadar through Hoshab and from Basima, Khuzdar to Ratodero. This work is scheduled for completion by end 2008. The rough cost estimate of this linkage is US$200 million.
- *Road 2.* To fully leverage Gwadar for the exploitation of mineral resources at Saindak and Reko Dik in northwestern Balochistan, a new road connecting N-40 to N-85 would be needed. This link could, for example, lead from Dalbandin to Basima.
- *Rail.* The construction of three railway lines is envisioned. First, the Gwadar-Panjgur-Quetta link is scheduled for completion in 2010. Second, the government approved in March 2007 a train link from Quetta to Peshawar that reduced train travel distance by 400km at a cost of US$120 million. This rail link would improve connectivity with Western China. Third, the Gwadar-Panjgoor-Dalbandin segment over 515km, which would facility the transport of minerals, is under planning.
- *Air.* The runway at Gwadar will be expanded for use of wide bodied jet air-crafts. In the long-term, a new airport at Guarandani in 26km distance from Gwadar port is envisioned.
- *Water.* Ferry services to the Middle East, which is home to a large Pakistani migrant population, and Oman, which has special historic links to Gwadar, are planned.

Software

2.94 Decent infrastructure and utilities can still fail to make a port competitive in the absence of sound policies and regulations. The landlord port model implies that Gwadar Port Authorities (GPA), together with other public agencies, will be in charge of ensuring funding for core infrastructure, planning and monitoring of port developments such as the dredging, navigation, and construction of quays, and setting policies, tariffs and rates. PSA will be in charge of port operations and marine services and invest substantial resources in return for a share in the generated port revenues.

2.95 To be effective in its regulatory role, GPA requires considerable strengthening in development planning, finance, management of port operators, tariff and rates management, marketing, and performance monitoring of the operators. Market-based salaries and a professional work environment will be necessary to attract the personnel with the requisite specialist skills in each of these areas. With regards to port planning and development, three issues require immediate attention.

- The port limits are still undefined, which creates uncertainty on expansion plans.
- A zoning plan needs to be formulated to allocate land areas for the various port and industrial development activities.
- The port tariff and operations manual have to be finalized.
- GPA should establish a marketing department to attract shipping lines and domestic traffic.

2.96 Effective development of the port also requires better coordination among the stakeholders involved in the development of Gwadar port, Gwadar city, and the coastline. There are currently six agencies active in Gwadar – GPA, the Gwadar Port Implementation Authority, the Gwadar Development Authority (GDA), the Balochistan Development Authority, the Balochistan Coastal Development Authority, and the district government of Gwadar. The respective responsibilities of these agencies need to be clarified, and their coordination improved. In particular, once the port limits are notified, GPA should be responsible for the port area and GDA for the area outside the port and inside the Gwadar city boundary.

Box 2.16: Pakistan's National Trade Corridor Improvement Program (NTCIP)

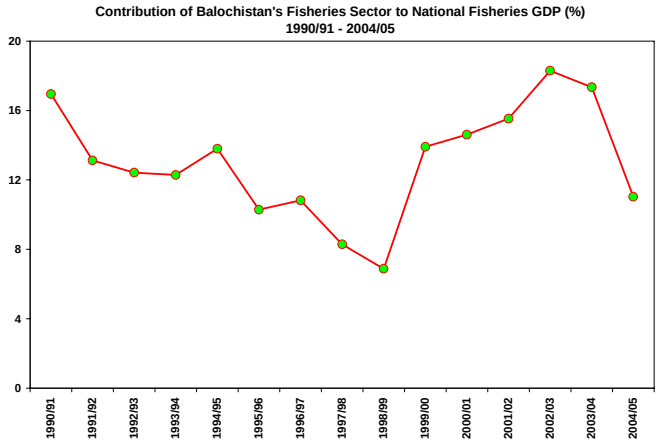
To support sustained growth and increase competitiveness, the Government of Pakistan — with the assistance of the World Bank and the Asian Development Bank — has launched a major strategic initiative to improve the trade and transport logistics chain along the north-south National Trade Corridor linking Pakistan's major ports with its main industrial centers and neighboring countries. The ports, roads and railways along this corridor handle 95 percent of external trade and 65 percent of our total land freight. The NTCIP foresees investments of around US$6 billion up to 2010. The main rationale of the NTCIP is for Pakistan to gain a competitive advantage in the fast globalizing world and enhance efficiencies through the provision of world class infrastructure, an efficient logistics chain, and a smooth interface between the public and private sectors. NTCIP holds a holistic and integrated approach to reduce the cost of doing business by improving trade logistics to international standards.

2.5 BEYOND GWADAR: COASTAL DEVELOPMENT

Large Pool, Small Catch

2.97 Balochistan's coastline has potential in many areas, including wind energy, mangroves, ecotourism, the most important of which is fishery. The province covers 790 km of the national 1,100 km national coastline, and contains rich fishing grounds for tuna and mackerel (large pelagic, meaning large fish living in the open sea), sardines and herrings (small pelagic), catfish and croakers (demersal fish, meaning fish dwelling near the bottom of water), and shrimps, squid and crab. About 150,000 fishermen are engaged in marine fishing in Pakistan, about 45,000 of which reside in Balochistan. Despite the rich endowment and large labor force, Balochistan contributes no more than one sixth of national fisheries value added (Figure 2.17). And while Balochistan lags behind Sindh, Pakistan lags behind other countries. Out of total world fisheries exports, it accounts for just 0.4 in terms of volume, and, due to inferior quality, only 0.3 percent in terms of value.

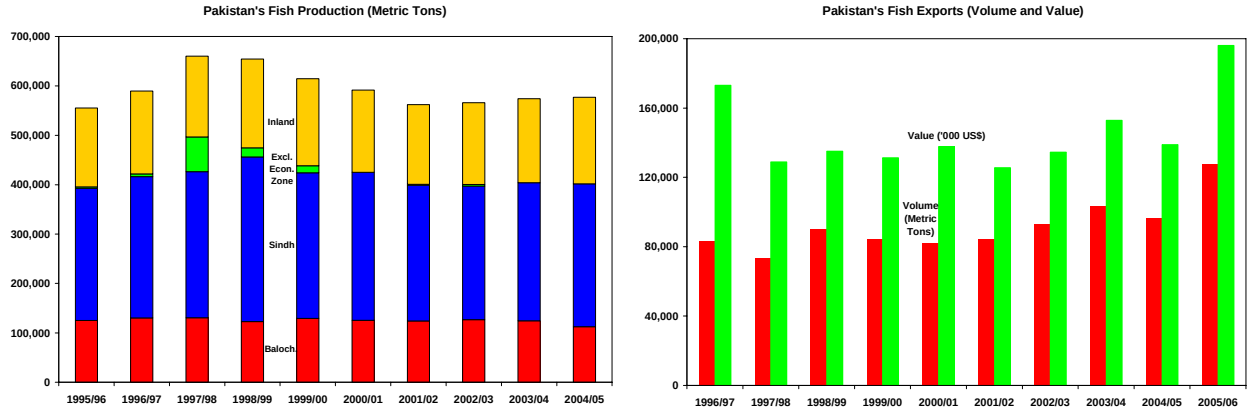
Figure 2.17: With more than two-third of Pakistan's coastline, Balochistan contributes only one-sixth of Pakistan's fisheries GDP



Source: World Bank

2.98 Pakistan's fish production and export data over the last decade reveals some sobering trends. First, fish production and export values have remained virtually stagnant over much of the period. Balochistan's official marine production is about 125,000 metric tons, and Sindh's around 275,000 metric tons, although the Sindh numbers might include fish catch landed on the Balochistan coast by the Sindh-based fishing vessels. Some 90,000 tons were exported to countries like China, Japan, the Middle East, Sri Lanka, Germany, the US and the UK. Annual fish exports contribute no more than US$130 to US$140 million over most years, even though the performance last year was better. While Pakistani fish export have failed to take off, total fisheries imports of developed countries grew annually by around 4 percent from $34 billion to $49 billion during the 1990s. Rising fish consumption in these crucial export markets have boosted 2006 fish exports to US$4 billion in Thailand, US$3 billion in Vietnam, US$1.2 billion in India, and US$350 million in Bangladesh.

Figure 2.18: Production and exports of fishery products has stagnated.



Sources: Marine and Fisheries Department, and Federal Bureau of Statistics

2.99 Second, even though Balochistan accounts for two-third of Pakistan's coastline, it contributes less than one third of the country's marine fish production. While illegal fishing and under-reporting might explain part of the shortfall, it mostly reflects the poor state of fishing infrastructure in the province, as we will discuss below.

Box 2.17: Pakistan's Fishing Zones

Pakistan's fishing grounds cover 200 nautical miles and are divided into three zones. Zone 1, the coastal belt, extends from the coast to up to 12 nautical miles, is reserved for small-scale fishing by traditional fishermen and falls under the regulatory jurisdiction of the provincial fisheries departments. Zone 2 stretches from 12 to 35 nautical miles, and Zone 3 from 35 to 200 nautical miles. These two zones are the domain of medium to large scale vessels operating under licenses from the Ministry of Food and Agriculture, and are regulated by the federal Marine Fisheries Department. Zone 3 is classified as an Exclusive Economic Zone and open to licensed foreign vessels.

2.100 Third, the bulk of the catch comes from Zone 1, an area of only 22,000 km2 (Box 2.17). The Exclusive Economic Zone, which covers an area of about 300,000 km2 or four-fifth of Pakistan's waters, contributes virtually nothing to the overall marine fish catch. The lack of substantial private sector interest in the sector has led to the dearth of larger and mechanized vessels capable of fishing in deeper waters. Presently, only foreign trawlers are operating in the Exclusive Economic Zone, from which the federal government collects nominal licensing fees. These foreign trawlers have caused considerable resentment amongst local fishermen who accuse them of intruding into coastal waters and of throwing away large quantities of unwanted catch that has strained specific fish stocks (Box 2.18).

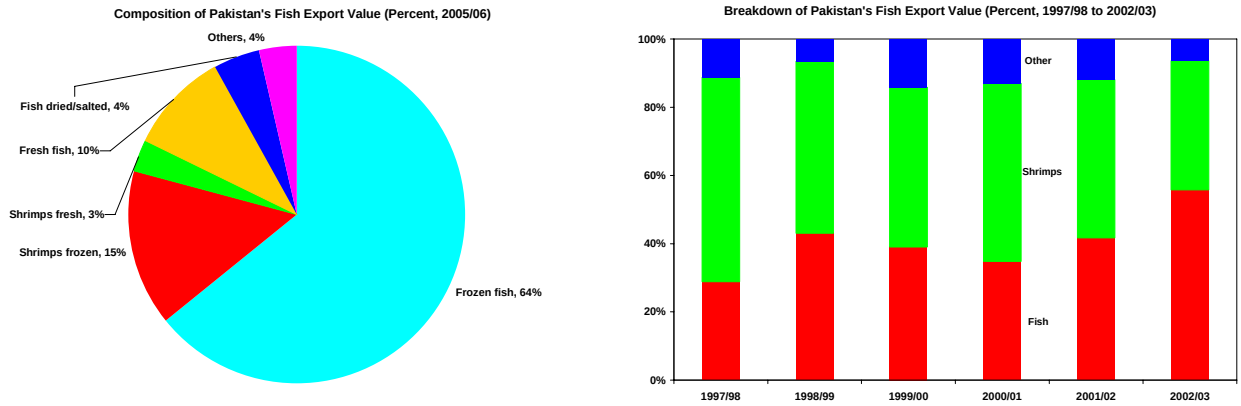
Box 2.18: Foreign trawlers deplete local fish stocks

Hundreds of local fishing families are being pushed into poverty due to over-fishing by international trawlers in Pakistani waters, especially those from the Far East. Pakistani fishermen groups say trawlers from China, Japan, Korea and Taiwan encroach on their local waters and use giant fishing nets to scoop up fish and deplete fish stocks under Pakistan's policy of opening up its waters to international fleets. Rogue trawlers are accused of using damaging nets and of indiscriminate catching and dumping huge quantities of young, unwanted, or dead fish at sea leaving less for locals to catch. "The trawlers have long nets of one to three km length, and the mouth of the net is equal to three times of the size of the American Statue of Liberty," says Mohammad Ali Shah, chairman of the Pakistan Fisherfolk Forum." They catch all types of fish, and when they sort out the catches about 90 per cent is discarded.

Source: The Dawn, 27 March 2007; ActionAid Pakistan (2007).

2.101 Fourth, Pakistan's export earnings are low. Even through profit margins are higher in foreign than domestic sales, only about one quarter of the marine catch is exported as much of the sector fails to meet international quality standards. In addition, export unit values for Pakistan are less than one third of those for Thailand, Vietnam or India, as Pakistan mostly exports low value-added fish biomass. In 2005/06, frozen fish and frozen shrimp contributed 64 percent and 15 percent of the export value, respectively, whereas fresh fish and shrimp, which have high value addition, accounted for only 10 percent and 3 percent, respectively (Figure 2.19). And the recent trends are discouraging: export unit values declined from $2.1/kg in 1997 to $1.5/kg in 2006, partly because the export share of shrimp, which fetches a higher price than fish, has declined.

Figure 2.19: Pakistan's fish exports have lost in value due to declining shrimp production



Sources: Marine and Fisheries Department, and Federal Bureau of Statistics

2.102 How far below is Pakistan's fish production compared to what it could be? The earnings potential from caught fish is derived from the maximum sustainable yield based on a stock assessment of the available biomass. Pakistan's last stock assessment dates from 1987 (Table 2.7). Commercial marine fisheries resources consist of some 350 species, including some 240 varieties of demersal fish, 50 varieties of small pelagics, 28 varieties of medium to large pelagics, 21 species of shrimp, and several species of squid and lobster. These findings suggested that shrimps were in danger of being over-fished (as indeed production trends confirm), whereas pelagic species were under-exploited. In addition, there was a large untapped stock of mesopelagic lantern fish that can provide animal feed in the form of fishmeal and fish paste. These increases in catch could provide additional annual exports in the range of $400 to $600 million. Furthermore, this stock assessment covered only an area spanning from the coast up to 50 nautical miles, and largely excluded the Exclusive Economic Zone with its large reserve of demersal and pelagic species. It also excluded aquaculture, such as shrimp farming. Including these two areas, the annual export potential of the sector could be in the range of US$1 billion or roughly seven times the present amount. Since all 15 Pakistani fish exporters are Karachi-based, Balochistan's fish industry has still to cash in on the fact that fish pay little notice to provincial boundaries.

Table 2.7: Pakistan's Potential Fish Catch

Fishery Resources	Biomass (1987)*	Maximum Sustainable Yield (1987)	Average Catch Past 6 Years	Potential Increase in Catch	Potential Increase in Earnings
	Tons	Tons	Tons	Tons	US$ Million
Small Pelagic Species	700,000	300,000	86,800	213,200	160-240
Large Pelagic Species	80,000	60,000	39,500	20,500	30-45
Demersal Fish	500,000	300,000	267,800	32,000	25-35
Shrimps	88,000	35,000	25,700	9,300	30-40
Cephalopods	30,000	15,000	6,500	8,500	38878
Mollusk	8,000	4,000	500	3,500	38813
Crabs	25,000	10,000	5,700	4,300	38845
Mesopelagics	10,000,000	5,000,000	0	5,000,000	250
Total	11,432,300	5,724,600	433,300	5,284,100	$500-700

*This assessment largely excluded the Exclusive Economic Zone nad therefore greatly underestimated the biomass of demersal and pelagic species.
** The lower limit assumes existing unit prices; the upper limit assumes a 50 percent to 75 percent increase in unit prices due to quality improvements.

Source: 1987 Fish Stock Assessment and Bank Estimates.

Deficient Value-Chain

2.103 The principal reason for the weak performance is low productivity along the entire value chain. Fishermen operate small and dilapidated vessels unable to reach many fishing grounds and yielding only a low catch; harbors and auction halls are congested and fail international health and safety standards; and processing units lack modern preservation and packaging techniques. Since fish is a highly perishable commodity, any weakness in one of these elements lowers the value of the final product. Investments from production, transport, processing, marketing, distribution and inspection are complementary. For example, the private sector will be unwilling to invest in a modern fishing fleet unless public investments in the fish harbor infrastructure help to maintain quality once the catch is landed.

Inefficient Catch

2.104 Local fishermen cover only the continental shelf. As almost all of the marine catch is from the area up to 35 nautical miles, the Exclusive Economic Zone is effectively used only by foreign trawlers. Trash fish, used for fish meal or entirely discarded, comprises between two-fifth to one-half of the total marine fish catch, a very high ratio by international standards. Such limited and inefficient fishing is in turn a reflection of the poor state of the fishing fleet. Pakistan's total marine fleet of around 22,000 vessels consists largely of wooden, non-mechanized boats that lack the requisite navigation and fish-finding equipment necessary to locate fish in deep waters, as well as the on-board facilities needed to preserve the fish after it is caught. Three-quarter of the boats in Balochistan are small craft under 40 feet in length and capable of only short haul trips of under 3 days. These boats, as well as many of the larger vessels, lack technical devices to boost the catch per trip. For example, short-wave radios can enable boats to communicate with each other to better determine fish locations; and echo sounders can be used to locate specific varieties of commercially viable fish. Without these tools, much voyage time is wasted in locating fish, and fishing is done blindly with no ability to target edible as opposed to trash fish.

2.105 Once the fish is caught, the lack of a proper cold chain results in considerable deterioration of the catch. Most of the vessels are covered with galvanized iron sheets that quickly become breeding grounds for bacteria. The use of unhygienic crushed block ice with sharp edges can also damage the skin and tissue of the fish. Stacking the fish on top of each another results in further damage to the bottom layers.

Unsustainable Practices

2.106 The use of environmentally harmful nets is widespread and threatens fish stocks, including shrimp. Nets such as the *bhulo gujja* (fine mesh cone net made of nulon), *launch gujja* (a large version of bhulo gujja) and *chappal gujja* (net tied along the seashore near mangroves) continue to be applied in spite of an official ban. Similarly, *qatra* (fine mesh net) and, more recently, plastic nets are commonly used. These fishing nets trap juvenile shrimp and fish and thereby hamper the replenishment of the fishable stock, and damage fish habitats through the scraping of the ocean floor.

Poor Harbor Infrastructure

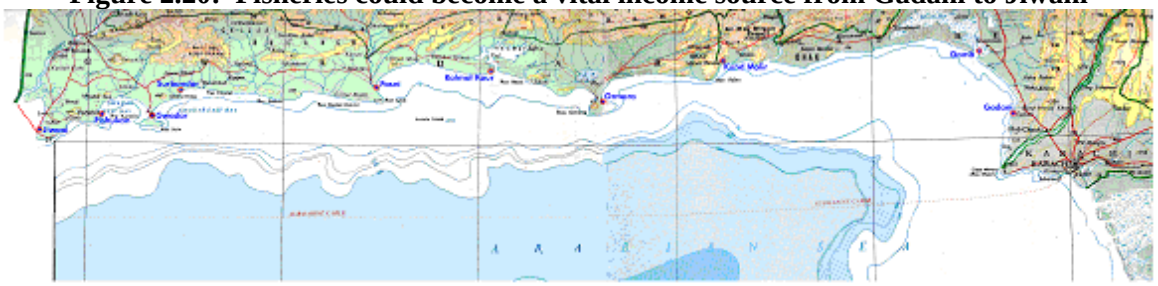
2.107 There is a dearth of good harbor infrastructure. The 29 fishing settlements along the coast of Balochistan are being served by only two fish harbors, located at Gwadar and Pasni, which together account for roughly half of Balochistan's marine catch (Box 2.19). In settlements without access to a harbor, smaller boats are beach-landed and larger boats are anchored in shallow waters from where the catch is brought to the beach in smaller boats. The catch is then auctioned while stacked on the beach, when exposed to sunlight and dust. The auction halls in Gwadar and Pasni are also unhygienic, with fish generally handled with bare hands, washed with mixture of salt and fresh water, and stored on unclean ice. Similarly, the fish processing plants, while in better condition than the harbor infrastructure, lack the necessary modern freezing techniques (such as Individual Quick Freezing) to meet export requirements. Nevertheless, the available facilities increase productivity compared to Balochistan's other fishing sites (Figure 2.20 and Figure 2.21). Presently only the two fish harbors have basic infrastructure and facilities, whereas all other fishing stations do not have any landing jetties, safe approaches, facilities for freezing and packaging and transportation. There are no road connections to the coastal highway, no fresh water supply and inadequate electric power.

Box 2.19: Balochistan's Fish Harbors

The Gwadar fish harbor was constructed by a Belgian company and became operational in 1992. The fish harbor comprises of 416 m long and 65 m wide finger jetty, which allows is to function also as a mini port. The jetty has two sheds; an auction hall of 3000 m² and a storage shed of 960 m². The fish harbor is fully occupied by 1,100 boats and vessels, employing about 4,800 full time fishermen. It accounted for fish catch of 29,300 metric tons during 2005, or about one quarter of Balochistan's production. The cold storage and ice plant facilities were constructed only in 2004/05, and are still not operational. Facilities for fish processing, boat repair or oil storage are also missing.

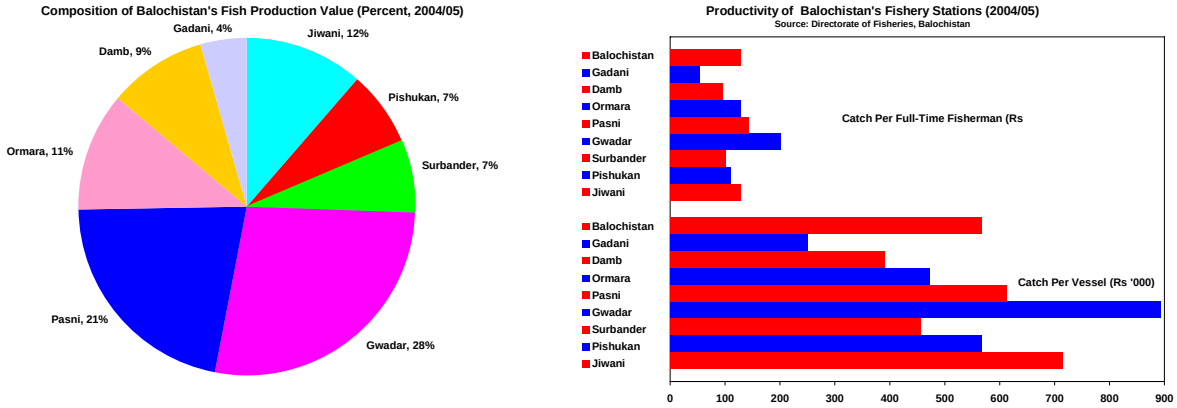
Pasni fish harbor was constructed by German firm under an ADB loan over Rs.445 million and became operational in 1989. The berthing facilities, protected by two breakwaters, include a cargo quay (150 m), landing jetty (60 m) and berthing jetties (280 m). Other facilities include a market hall, cargo handling cranes, two fish processing and freezing units, 13 ice plants, boat building shops and fish processing units. Pasni Fisheries Harbor Authority is also developing a 50 acres industrial area as fish processing zone. The harbor employs about 5,200 full time fishermen with 1,200 boats and vessels. In 2005, its fish catch amounted to 24,800 metric tons, over one-fifth of Balochistan's production. Pasni has serious siltation problem. It requires dredging of almost 40,000 cubic meter of accumulated siltation every year. No dredging has been done for over four years. The harbor is also over-crowded with fishing boats and other craft, and in need of extension.

Figure 2.20: Fisheries could become a vital income source from Gadani to Jiwani



FISH HARBOURS ALONG BALOCHISTAN COASTLINE

Figure 2.21: Gwadar and Pasni lead in production value and productivity indicators



Source: Directorate of Fisheries, Government of Balochistan

2.108 Poor hygiene through the entire supply chain starting from fishing boats through to auction halls and fish processing units has repeatedly resulted in severe repercussion for national exports. In 1998, the European Union (EU) imposed an embargo of Pakistan's seafood exports. In February, the government implemented a voluntary ban to ensure compliance with EU standards. In March 2007, the European Commission banned Pakistan's seafood exporters to the 27 country of the EU from April 12 onwards. An EU inspection mission in January 2007 had found evidence for deficiencies in the supply and cold food chain. Last year, the EU accounted for one quarter of Pakistan's seafood exports.

Way Forward

2.109 The principal thrust of the government's strategy should be on using scarce public resource to encourage much-needed private sector investment. One priority is to modernize the existing harbors at Gwadar and Pasni, and to construct new harbors in some of the other fishing settlements, such as Jiwani, Ormara, and Sonmiani. This leverages opportunities arising from Gwadar port and the Mekran Coastal Highway. In addition, the government should encourage an upgrading of the fishing fleet by private owners. Furthermore, highlighting the sector's potential through a widely disseminated new fish stock assessment can attract private investment and help to ensure sustainable fishing practices. Moreover, the government should provide incentives for shrimp aquaculture by facilitating the transfer of new technologies and in demonstrating their commercial viability. Finally, the public capacity to ensure compliance with hygiene standards for major export markets needs to be improved. Equally, the enforcement of fishing licenses, especially by large trawlers in Zones 2 and 3, has to be stepped up.

Investing in the Value Chain

2.110 Complementary investments along the entire length of the value chain are required for improving the performance of the sector. As a major portion of the fish production gets spoiled due to poor handling and slow transportation, preservation of the fish caught is essential even without increases in production. The public sector should improve existing, as well as construct new, harbors and auction halls, as their current state restricts private sector investment upstream in the fishing fleet and downstream in fish processing plants. These initiatives should be prepared under the umbrella of a master plan for coastal development. The Balochistan Coastal Development Authority (BCDA) has begun preparation of such a master plan.

2.111 The BCDA has begun developing new fishing ports at Gadani, Damb, and Jiwani. In addition there are a number of other sites where new fishing harbors could be constructed (Ganz, Peshukan, Ormara, Surbandar, Kappar, Chur Bandar, Basol, Malan, Hingol and Aghar/Kund Malir, etc). Harbor improvement will require investments in hoist and handling equipment, trolleys, the ice delivery system, the chilling and storage facilities, and the grading machines. The selection of potential sites for Balochistan's additional fish harbors should entail close consultation with local fishermen. For example, Korangi Fish Harbor in Karachi, constructed at the cost of Rs900 million in 1992, has failed to realize its potential as it is located far away from the settlements of local fishermen. Proper feasibilities will ought to be carried out prior to initiating construction, and these should include bathymetry and hydraulic analyses, topographic surveys, and sub-soil investigations.

2.112 Over the medium to long term, the development of Gwadar port can also serve as a catalyst for the clustering of export-oriented fish processing and packaging units in its vicinity. Depending on the interest of the private sector, the government could consider providing concessional land in the Special Economic Zone for the establishment of ice plants, clod storage facilities, and processing and packaging units to turn Gwadar into a sea food city.

2.113 While improving the quality of fishing boats is primarily the responsibility of the private sector, the government can make immediate and quite affordable interventions to improve the fishing capacity of the present fleet for local fishermen. Larger boats that operate beyond 12 nautical miles require fish finders and refrigerated fish-holds or refer containers. Small echo-sounders cost no more than Rs15,000 to Rs20,000 per unit. Equipping the around 1,500 mechanized boats operating in Balochistan capable of the longer haul trips would only require funding of no more than Rs30 million in equipment, as well as some additional expenditures on training. Similarly, on-board storage should be improved through polyurethane insulation and an on-board chilling system for the cold chain, plastic fish crates for stacking, as well as replacing wooden with fibreglass boats.

Conducting a Fish Stock Assessment

2.114 A major role of the public sector is to generate and disseminate the information on fishing potential in order to spur private sector investment. A survey of demersal, pelagic, shrimp and mesopelagic fish resources should be an immediate priority for the government. Such an assessment is also essential for effective policy planning and regulation, including for conservation measures, such as for shrimp. The stock assessment should be conducted in both the continental and EEZ fishing zones, and be carried out for one complete year to gain reliable estimates of the available resources. The detailed results of the assessment should be disseminated to the fishing community and to business associations. As the provincial fisheries department or the BCDA lack currently the capacity to conduct a new fish stock assessment, the survey work could be contracted out to a reputable foreign research institute. In the medium term, the

Marine Fisheries Department should have in-house capacity for the regular monitoring of fish stocks with a 40 meter to 60 meter fisheries research vessel, as it used to in the past.

Managing Common Pool Resources

2.115 Given the evidence of illegal intrusion by foreign trawlers into coastal waters and the threats of over-fishing, the government should reduce the licenses given to foreign trawlers for the Exclusive Economic Zone. The licenses granted generate only insignificant fees for the public coffers, yet they result in considerable resentment from local fishermen and contribute to the erosion of the marine resources. More generally, the monitoring system needs to be improved to avoid the tragedy of the commons. As each fisherman has an incentive to catch more fish than what is consistent with the sustainability of the system, unregulated access leads to overfishing and the depletion of the stock. The basic functions of managing common pool resources – coordinating users, enforcing rules, and adapting to changing environmental conditions – cannot be met without an enforced licensing system that controls both use and conservation.

Launching Shrimp Farming

2.116 Pakistan is in danger of depleting its shrimp resources in the open seas. While another and more comprehensive stock assessment may reveal greater opportunities for caught shrimp, it is clear that the real potential for shrimp exports rests with aquaculture. To date, this technology has largely been ignored, despite its obvious success in the region. Pakistan should follow the examples of Thailand, China, Vietnam, India, and Bangladesh and develop coastal aquaculture, in particular shrimp farming. For example, shrimp aquaculture accounts for over one third of Thailand's fisheries exports. Uncertainty regarding the profitability of shrimp farming and lack of complementary infrastructure, such as electricity, reliable water supply, and transport, could be two main reasons for the present lack of private sector involvement in this sector. The evidence from the development of aquaculture in other countries suggests that the public sector has an important role to play in facilitating the transfer of new technologies and in demonstrating their commercial viability (Box 2.20).

2.117 The Government of Balochistan recognizes the importance of developing shrimp aquaculture and has recently adopted a shrimp farming policy that focuses on the need to provide technical know to the private sector. There are a number of promising locations for shrimp farming in Balochistan. These include the Hub River Delta, the Sonmiani lagoon and bay, Kalmat Khor, Dasht River Delta, and Shadi Khor. The government can further facilitate private investments by providing land at concessional rates in these locations, and making the necessary investments in electricity, water supply, and road infrastructure. In addition, sustainable shrimp farming will also require effective zoning to ensure that farms are above the inter-tidal zone, and that there is no net loss of mangroves or other sensitive wetland habitats.

2.118 Shrimp farms will only be viable if there is a dependable, high quality post larval stock from hatcheries. Initial attempts at farming in Pakistan failed because they relied on a grow-out phase in which juveniles and post larval shrimp were either captured or imported and then reared in ponds until they reached a marketable size. This method is not commercially viable. Juveniles collected from the breeding grounds are subject of seasonal fluctuations in quantity and are often mixed with many unwanted species that requires a tedious and costly separation process. The import of seed shrimp from Southeast Asia also resulted in large losses during transportation. The public sector can therefore catalyze private sector involvement in this area by investing in the development of hatcheries, which are the best method of ensuring large and reliable quantities of seed shrimp. Some steps have already been taken. The National Institute of Oceanography has recently established a small hatchery, the first of its kind in Pakistan, and a pilot shrimp farm that is showing encouraging results. These are welcome initiatives that need to be built on.

2.119 Based on the results of a new stock assessment, the government should also consider introducing conservation measures to prevent over-harvesting of caught shrimp. Selected creeks and mangrove swamps could be declared as sanctuaries, and fishing for juvenile shrimp banned in coastal areas.

Box 2.20: The growth of the Chilean salmon industry – an example of effective public-private partnership

The growth of the Chilean salmon industry demonstrates how the public sector can facilitate private investment in new sets of activities. From being a margin player in the 1970s, Chile has now emerged as the world's second largest exporter of salmon, generating annually about US$600 million in foreign exchange. This achievement is primarily due to the efforts of Fundacion Chile, a non-profit institution established by the Chilean government in 1976 with the partnership of the ITT Corporation. Fundacion's role has been to identify new suitable technologies, adapt them to the local context, and transfer them through the creation of innovative 'incubator' companies. Fundacion commissioned feasibility studies for cultivating salmon in cages, hired foreign specialists, developed the necessary facilities, and piloted the production technologies of young salmons. Following these successful experiments, Fundacion created salmon farming companies to demonstrate that these new technologies could be commercially successful. The formation of these companies, the first of their kind in Chile, was accompanied by widespread dissemination of their business plans and achievements to encourage private sector involvement. Once private investment started flowing into the industry, Fundacion sold off these pilot companies and completed the process of technology transfer.

Sources: Fundacion Chile (2005), Rodrik (2004).

Promoting Public-Private Policy Dialogue

2.120 The private sector should be actively involved in policy planning. Formal mechanisms for public-private partnership can play an important role in identifying new investment opportunities (Box 2.21). The Government of Balochistan has taken the welcome initiative of constituting a Fisheries Sector Promotion Committee under the chairmanship of the minister for fisheries, and with participation from both the public and private sector, for the development of the sector. The terms of reference of the committee include policy formulation, investment promotion, land allocation for shrimp farming, infrastructure development, and training and capacity building. The government should now ensure that the committee meets regularly as per the timetable stipulated in the terms of reference. This Fisheries Committee should also be expanded and given greater resources so as to be able to co-finance feasibility studies and prepare of business plans, and fund demonstration projects and technology transfer arrangements.

Building Capacity and Coordination

2.121 The lack of technical staff in the key concerned departments – the fisheries department and the various development authorities – is a significant constraint to the development of the sector. The Fisheries Department has facilities only at Hub and Pasni, and they are poor condition. The workshops at Gaddani, Dam, Ormara, Pasni, Gwadar, Pishukan and Jiwani are barely functional. There is only one research and training station for technical staff and fishermen in the coastal belt. The recent establishment of the Lasbela University of Agriculture, Water, and Marine Sciences is a commendable government initiative in improving the research and policy planning capacity of the fisheries sector. In addition to conducting basic research, the university will also introduce short training courses for personnel of the fisheries department and Coastal Development Authority in shrimp aquaculture, fisheries sciences, and fisheries management. Such initiatives need to be built upon, utilizing both public resources such as those of the Higher Education Commission, as well as private funds through partnerships with commercial interests.

2.122 In addition, a number of federal and provincial agencies are tasked with the development of Balochistan's coast. They are working mostly in isolation without information sharing or consultation. For example, the provincial fisheries department has no say in the development of fish harbors constructed independently by the Gwadar Development Authority, Balochistan Development Authority or Balochistan Coastal Development Authority. The planning and decision making process for fish harbors along Balochistan's coastline should be streamlined under a single agency.

Box 2.21: Insurance against natural calamities

Risk is a pervasive characteristic of life in Balochistan's coastline, as natural calamities affect fishermen more often than many other professions. For example, in June 2007, a typhoon hit Gwadar, Surbandar and Jiwani and damaged 280 vessels. Since weather shocks affect most households in the same area at the same time, fishing communities have difficulties to mitigate the shock without risk transfer mechanisms. As the private sector is largely absent from this market, the government faces a large fiscal exposure in the aftermath of natural disasters. Yet, the public sector can play an enabling role in the development of an insurance market. Mexico provides sovereign catastrophe risk coverage through an international bond; and Turkey insurance against earthquakes through the sharing of risk. The government set up the Turkish Catastrophe Insurance Pool in 2000 as a public-private partnership to limit the fiscal obligations of the government in the event of a disaster. Participation in the insurance is compulsory for residents within specified municipal boundaries. By combining funds from many contributors, poor homeowners have access to affordable insurance coverage from commercial reinsurance markets.

2.6 LINKING ENTERPRISES

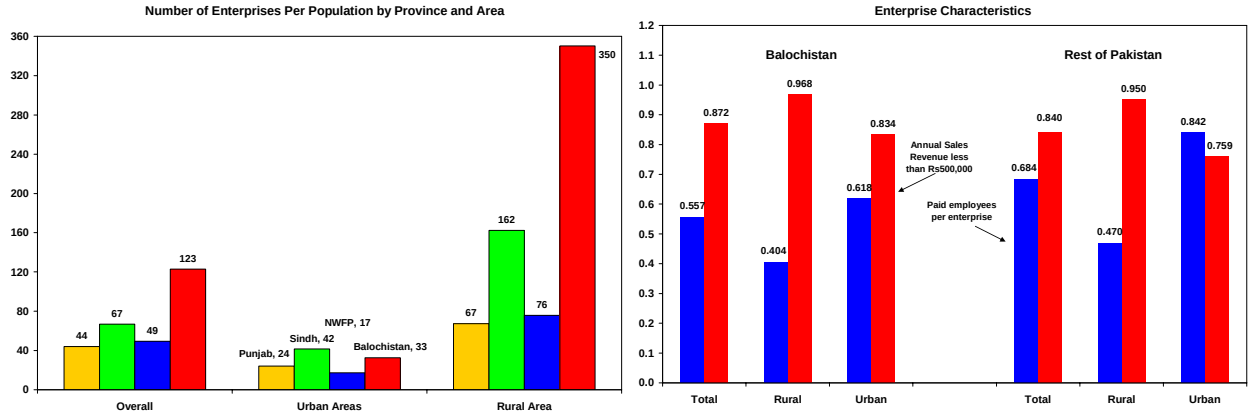
Business Environment

Segmentation

2.123 Balochistan's basic demographic and geographic characteristic - a small population dispersed over a very large land surface - leads to highly segmented factor and output markets, a preponderance of small enterprises, and limited business opportunities. There is only a small potential pool of employers and workers at any given location, the transaction costs of accessing other localities are high, and there are large price differentials between locations in the price of basic commodities. For example, in 2004 the daily wage rate in terms of wheat-flour equivalent varied from 3.3 kg in Rakhni to 9.1 kg in Panjgur (Gazdar 2004).

2.124 The province suffers from a dearth of enterprises. The 2001-2003 Economic Census located only 62,000 business establishments, only 18,000 of which in rural areas. This is just 2 percent of Pakistan's enterprise population, stretched out over 44 percent of Pakistan's landmass. In rural areas, there is only one establishment per 350 people, about one-fifth of the ratio in NWFP or Punjab (Figure 2.22, left panel). As a result, most inhabitants of villages have to rely on subsistence agriculture and animal husbandry. For example, only 15 percent of rural households owned a shop or business in Balochistan in 2004/05, the lowest ratio of any province and only half the share in the rest of Pakistan. In addition, segmented markets imply that the bulk of the enterprises is active in sectors that generate little value-added and rely mostly on trading profits from price arbitrage or simple services. Wholesale and retail trade accounts for over two-third to close to three-quarters of all enterprises in Balochistan's urban and rural areas, at the expense of manufacturing and community and other services (Figure 2.23). In Pakistan's other provinces, the trade sector comprises only one half of all establishments and the manufacturing is about 6 percent larger. Furthermore, market segmentation implies that business remain small, with low capital, turnover and employment. Such enterprises fail to generate economies of scales or multiplier effects that bring about prosperity in localities. More than 98 percent of the enterprises are own-account businesses. Out of the 2.1 jobs per enterprise, one half is taken by the enterprise owner, another quarter by unpaid family workers, leaving only 0.56 jobs for paid employees (Figure 2.22, right panel). In Balochistan's villages, this number drops to 0.40, which is less than half the ratio in the urban area in Pakistan's other provinces.

Figure 2.22: Balochistan's enterprises are hard to find and generate little sales and jobs

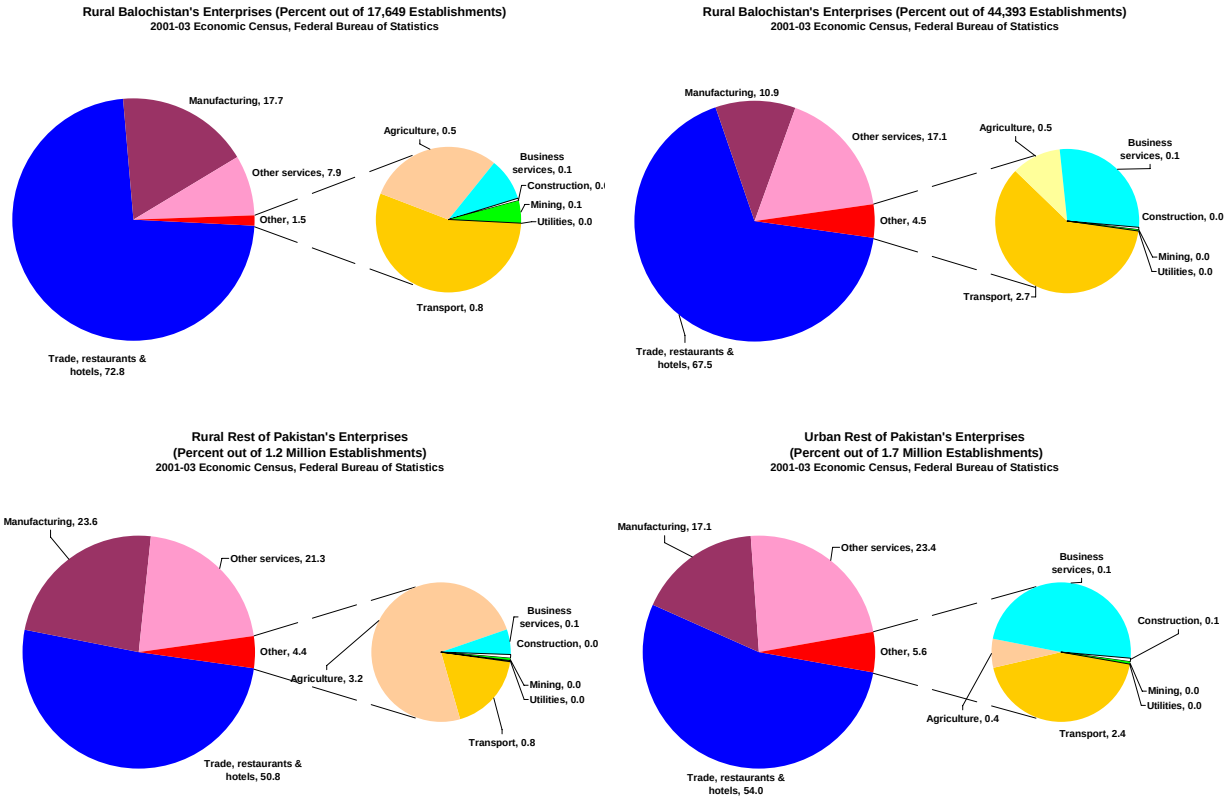


Source: Economic Census 2001-2003 and Federal Bureau of Statistics

2.125 This state of affairs is made worse through a number of factors. First, the low level of economic activity in the economy implies that resources to provide the basic services (security, water, power, and

roads) for the expansion of enterprises are missing. Second, the labor force is largely illiterate, therefore many of the skills required by a modern economy are absent (Figure 1.15, right panel). In addition, low productivity makes it hard for the private enterprises to compete successfully for the small number of skilled workers with a large and well-paying public sector. As a result, only one-twentieth of Balochistan workers have a private sector job with a regular wage (Figure 1.17, right panel). Third, informality perpetuates low productivity, as informal firms tend to be locked out from markets for technology, finance, and other resources. For example, the provision of basic services (water, power, roads) to the informal sector is worse, partly because small companies demand only uneconomically low volumes and monitoring costs are high. Similarly, banks and other financial institutions are reluctant to extend affordable credits in the absence of market information to assess the financial credibility of informal businesses, most of which have no assets to offer as collateral. Hence, credit access is restricted, which in turns prevents companies from expanding. Only some 433 companies out of the 62,402 enterprises in the province have capital investments in excess of Rs1.5 million ($25,000), even including the value of land and buildings. And just over 3 percent of the companies in rural areas have annual sales revenues in excess of Rs500,000, compared to a quarter of the enterprises in cities in Pakistan's other provinces (Figure 2.22, right panel). Lack of capital also restricts enterprise creation: only one in six enterprises were started since 1999 in rural areas of Balochistan, compared to less than one in three in urban areas outside of Balochistan. Fourth, without the access to resources to allow companies to transition to the formal sector, the informal sector keeps growing. For example, the share of informal non-agricultural workers in private enterprises increased by 20 percent from 1999/2000 to 2005/06 in Balochistan (Figure 1.18, right panel). Overall, as a critical mass of skills and market demand exists only in a few localities, the province misses out on the gains from division of labor and specialization.

Figure 2.23: Wholesale and retail trade dominates is Balochistan's primary business

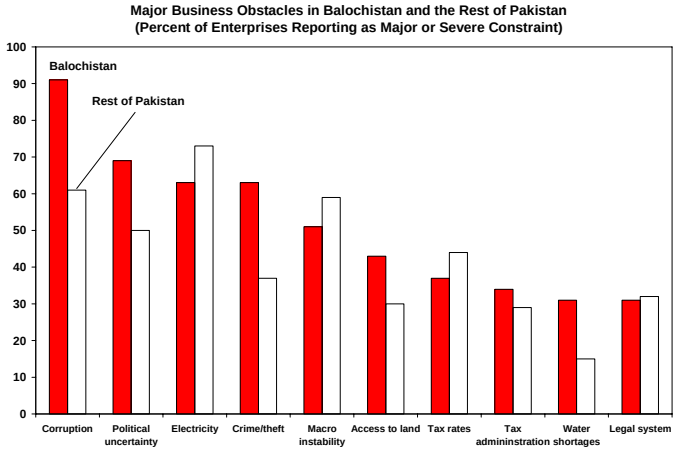


Source: Economic Census 2001-2003 and Federal Bureau of Statistics

Uneven Investment Climate

2.126 Access to inputs and markets is not the only factor influencing private investment decisions. Corruption, crime and theft, and political uncertainty can be profoundly damaging to the investment climate, imposing barriers to entry, adding to operating costs, and creating uncertainty once the firm is established. This applies to both large and small firms, but it is especially important for small and medium enterprises, with their weaker capacity to use "political contacts" and other means to resist harassment. Preliminary results from the 2007 Pakistan Investment Climate Survey (PICS) suggest that these factors impede Balochistan's enterprises. The PICS identified constraints through the firms' rating of 18 issues according to the severity of each given constraint. Figure 2.24 shows the ten major business obstacles in Balochistan compared to the rest of Pakistan. A remarkable 91 percent complain about corruption, compared to only 61 percent in the rest of Pakistan. Other important concerns are political uncertainty, unreliable electricity, and crime and theft. Enterprises in Balochistan are also more troubled by access to land and water shortage trouble more than in the rest of Pakistan.

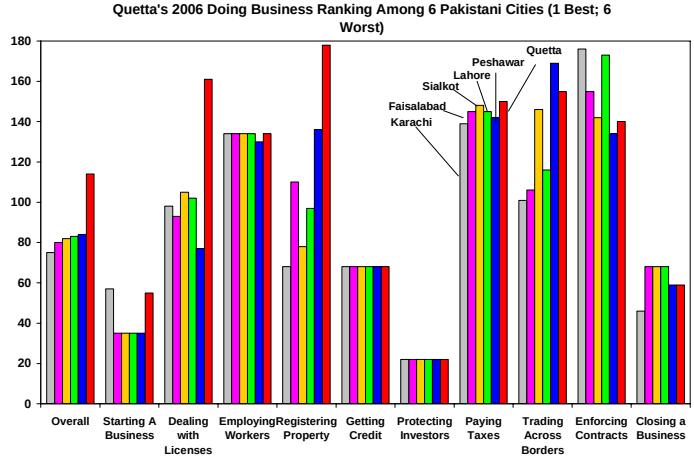
Figure 2.24: Corruption, political uncertainty, irregular electricity and crime and theft are the major concerns of Balochistan's enterprises.



Source: PICS 2007, Sample: 934 Enterprises, 35 in Balochistan

2.127 While the 2007 PICS sheds light on enterprise perceptions, the 2007 Doing Business in South Asia Report allows us to look at formal business regulations and processes. Business regulations affect directly the productivity of investment and economic activity of micro to large enterprises. They cover a range of issues, from the costs to starting a business to the costs of closing a business. How do business regulations in Quetta, as laid out on paper, compare with those in the largest cities in 175 countries, as well as an additional 11 cities in India, 3 cities in Bangladesh, and the 5 cities in Pakistan? Among Pakistan's cities, Quetta's ranks bottom in the overall doing business index, behind Karachi (Sindh), Faisalabad, Sialkot, Lahore (all Punjab), and Peshawar (NWFP). Out of the 194 cities, Quetta ranks overall 114th, far behind the other Pakistani cities, which hold positions from 75 to 84 (Figure 2.25). The ranking suggests that Quetta does remarkably well on four topics: starting a business, getting credit, protecting investors, and closing a business. The same holds for Pakistan's other five cities, which indicates that Quetta's respectable position reflects to a large extent satisfactory nation-wide regulations. However, the worldwide comparison also points to six areas of concern where Quetta ranks in the bottom 30 percent of the global distribution: dealing with licenses, registering property, trading across borders, paying taxes, employing workers, and enforcing contracts. In the first three issues, Quetta does also markedly worse than the other Pakistani cities, whereas for the last three issues, all the six cities of Pakistan fare poorly. In the following, we will discuss briefly the reform agenda emerging on the six areas with weak business regulation.

Figure 2.25: Quetta ranks 114th among 194 cites overall, much worse than other cities in Pakistan



Source: World Bank, Doing Business 2006

2.128 *Dealing with licenses*. In contrast to the cost and time it takes to register a business, actually starting business activities in Quetta can be very time consuming and very costly. Obtaining the necessary licenses, undergoing inspections and securing utility connections involves 18 steps compared to 10 steps in Lahore. The higher number of inspection requirements leads to more procedures and more time. Even among common procedures, the range of time required is high. For example, the number of days required for environmental inspections ranges from 36 in Lahore to 76 in Quetta. Quetta's relatively high costs derive from the high average cost for the building permit coupled with higher than average costs for obtaining connection to electricity and water. These findings indicate that the cost, time and activities necessary for business to develop a site to operate a business should be one of the highest priorities to improve the business environment in Quetta. The large number of agencies involved, most of which are provincial or local, implies that between site inspections and development permits, a builder can interface with 15 to 20 authorities depending on the specific location. Reforms should include modernization of outdated municipal by-laws and permit issuance process, road-maps to assist investors, and single window facilitation, particularly in the large industrial estates, for potential investors.

2.129 *Registering property*. Quetta ranks only 178th in the world in terms of the ease for registering property. This is the worst ranking across all 10 indicators for any of Pakistan's cities. The low rating is due to a large number of procedures (12 compared to 6 in Karachi), the large time required (93 days compared to 38 in Faisalabad), and the large costs of stamp duty, registration fees and transfer taxes involved (8.1 percent of the property value compared to 4.1 in Faisalabad). For example, the procedures require advertising in Quetta but not in Punjab; and registering the deed with the proper authorities takes 48 days in Quetta but 28 days in Faisalabad. Learning from better practice provinces would provide simple ways to cut procedures, time and costs, such as the e-government registration pilots in Punjab. More fundamentally, while the mechanics of registering property are not particularly problematic, systematic land titling problems prevent leveraged financing and have filled the courts with land disputes. Attention at all levels of government is required to help solve the more significant issues associated with obtaining clearly titled land, either through secondary markets or from releasing the vast amounts of public held real estate. In parallel with the process to institute clear titles and strengthen insurance systems for new plots, a significant effort is needed to clarify rights for a wide majority of land holders where title is unclear. In this case, a larger land registration reform initiative would be needed including the possibility of re-mapping in advance of authenticating ownership. Following the establishment of clear property rights, land markets would be further facilitated through a rationalization of local zoning, rental and building regulations.

2.130 *Trading across borders.* Quetta, a trading town dependent on the flow of goods from and to Afghanistan, ranks only 155th in the world on international trade. By contrast, Karachi, Pakistan's national trading hub, is the cheapest and quickest city from which to export and import, based on the proximity to the port and the scale economies which derive from the large proportion of trade which takes place there. Improving connectivity of Quetta to an operational port of Gwadar and the National Trade Corridor Project will help to lower trading costs. In addition, as we will discuss in the next section, cross-border trade with Iran and Afghanistan can be a great boon to Balochistan's enterprises.

2.131 *Employing workers.* Like other South Asia countries, labor market rigidity is in general relatively high in all cities of Pakistan. The composite ranking places Pakistan's cities at 134th in the world. However, unlike most countries, the national rules governing temporary contracts imply that Pakistan's labor code affords rigid and expensive conditions on hiring while officially allowing flexibility in firing – although separations tend to be costly. The federal government is reforming the labor code in order to increase further the flexibility in the labor market and lower the cost of compliance by employers. The conditions of employment in terms of working hours have already become more flexible with the passage of federal legislation in the middle-2006. At the provincial level, enforcement of the new legislation should be enhanced through more professional and less intrusive inspection methods.

2.132 *Paying taxes.* Like employing workers, the tax regime in Quetta is similar to the one in the other cities of Pakistan. Quetta ranks only 150th worldwide in the ease of paying taxes. While the average profit tax rate is not particularly high, the administration of taxes continues to remain a principal obstacle to doing business. The current tax code covers 47 different payments of varying types to various levels of government. Pakistan's Central Board of Revenue is leading reforms to widen the tax base, reduce the average rate, lowering the number of taxes and reduce the time involved. A range of federal tax agencies are undergoing modernization, capacity building and process re-engineering to enable improved government-business interface. Similar efforts are required at the provincial and local levels.

2.133 *Enforcing contracts*. Contract enforcement remains a one of the weakest dimensions of Pakistan's business environment, reflecting the weak degree of property rights enforcement in the region. According to the national code of civil procedure, it takes almost two and a half years to enforce a contract, involving 55 procedures and with the cost equal to about a one seventh of the debt in Quetta and one quarter of the debt in Karachi. The larger time and cost requirements in Karachi than Quetta are attributable to lengthier judicial and enforcement time (as opposed to filing time) along with higher court costs and more expensive attorney fees. Federal and provincial governments have been working in recent years to improve the functioning of the judiciary. In particular, draft amendments to the Code of Civil Procedure aimed at speeding up the judicial procedure are pending. The amendments seek more effective summoning using electronic means, limiting the number of adjournments, imposing costs on frivolous litigation, formalizing alternative dispute resolution, and other "quick fixes" to the judicial system. Specialized administrative and judicial tribunals to address specific types of cases (e.g. taxation, banking, customs, labor, etc) at the initial and appellate level are being introduced as are alternative dispute resolution pilots for commercial disputes.

Industrial Estates

2.134 One instrument to promote investments and industry clustering in structurally weak regions is industrial estates. Ideally, they provide in one locality streamlined administrative services and essential utilities that allow enterprises to produce and prosper. Balochistan's, and indeed Pakistan's, experience with industrial estates has been mixed for a number of reasons. Some industrial estates, such as the one in Quetta, have faced shortages of fund which prevented them to become fully operational with water, power, telecommunication and roads in the announced timeframe. For others, the cost of land was too high to attract industry into the area – this is a potential concern for the planned industrial estate at Gwadar. Industrial estates can also outlive their usefulness, such as the ship-breaking zone set up in Gadani in 1974,

which lost its business once Pakistan's allowed the duty free import of scrap from Iran, Kuwait and Iraq. Yet others failed precisely because they are located in a lagging region, without easy access to a skilled manpower, raw materials and markets. While fiscal incentives can help to induce an initial response from the private sector (Box 2.21), companies often exit upon the expiration of such benefits unless a vibrant local industry cluster has emerged in the meantime.

2.135 Given the overwhelming importance of location for the success of an industrial estate (Box 2.23), it comes as little surprise that Balochistan's principal concentration of industrial estates is in the district of Lasbela, in close proximity to Pakistan's leading commercial hub of Karachi. There are five industrial estates operating under the management of Lasbela Industrial Estate Development Authority (LIEDA, Box 2.22): Hub Industrial and Trading Estate (established in 1982), Winder Industrial and Trading Estate (1989), Winder Special Industrial Zone (1976), Uthal Industrial Estate (1976), and Gadani Marble City (2005) (Box 2.5). Beyond Lasbela, Balochistan's two other existing industrial estates are at Quetta (established in 1986) and Dera Murad Jamali (established in 1987 for agro-processing such as rice and flour mills, with rail link to the nearby cities of Jacobabad, Shikarbad and Sukkur in northern Sindh). One additional industrial estate is planned in Gwadar (Box 2.13).

Box 2.22: The ups and downs of Lasbela's industrial estates

Tax holidays offered by Lasbela's industrial estates in the late 1980s and early 1990s attracted substantial investments in the fields of textiles, engineering, pharmaceuticals, food and confectionery, chemicals, marble processing, electrical and electronics, oil blending and lubrication, and packaging. Most of the companies and workforce came from Karachi, located only 11 km from the Hub Industrial and Trading Estate. Since the end of the eight-year tax holiday in 1996, almost half of the 178 manufacturing enterprises have closed down. Apart from the phasing out of fiscal incentives, other reasons for the closure of industrial units included the high cost of raw materials and the poor management of the industrial estates. The establishment of LIEDA has introduced improvements in management and triggered a revival of fortunes. LIEDA provides one-window services. For example, it purchases bulk electricity from the Karachi Electric Supply Corporation and ensures reliable supply of electricity through its own distribution network. LIEDA is also involved in vocational training in collaboration with local enterprises and the local community to help address skilled labor shortages. Beyond improved management and services, the cost inflation of land in Karachi has induced companies to benefit from favorable land leases by LIEDA which provides land on 99-year leases at nominal rents.

Box 2.23: Thailand's zoning policy

Since 1987, Thailand's Board of Investment (BOI) used investment promotions to pursue the objective of regional development. The country was divided in three zones based on proximity to Bangkok in Zone 1, and the incentives offered increased with distance for zones at greater distance from Bangkok (Figure 1). While the zoning policy has influenced the spatial pattern of industrialization, it has failed to induce widespread industrialization beyond Bangkok and surrounding areas. For example, from 1997 to mid-2005, the lagging regions of the Northeast, North and South received only about 14 percent of all investment promotions, less than half their joint GDP share of 30 percent. Even those firms investing in these far-flung areas of Zone 3 located typically as close as possible to Zone 1 in order to limit transport costs while maximizing investment incentives. In addition to congestion and high land rents in Bangkok, the BOI zoning has also contributed to shifting investments from Bangkok to surrounding areas in Zone 2 areas. Similarly, industrial estates have not led to investment diversification to remote areas, as they are unlikely to succeed without a clear market demand for the services provided (Figure 2). As a result, industrial estates are located primarily in Zone 1 and Zone 2. Since they offered similar incentives as those presented by Zone 3, they further diluted the incentives for firms to relocate to Zone 3.

Figure 1: BOI Promotion Zones

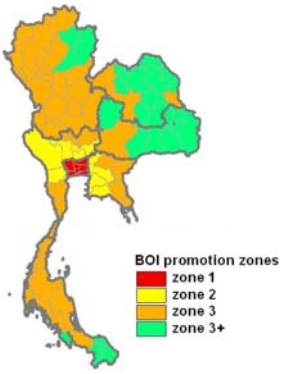


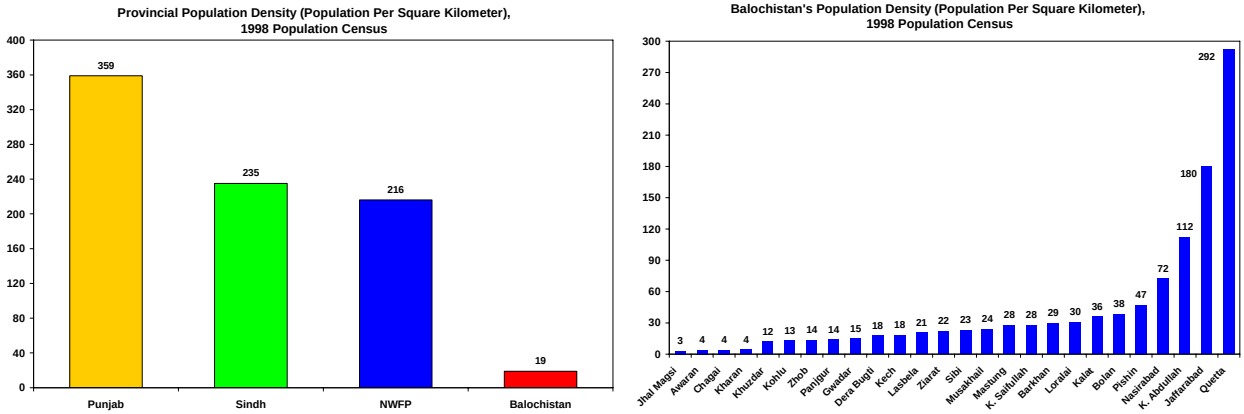
Figure 2: Industrial Estates

Roads to Prosperity

Remoteness

2.136 Balochistan's difficult geography makes it hard for enterprises to proper. Some 5 percent of the national population is spread over 44 percent of Pakistan's landmass, equal roughly to the size of Finland. At 19 people per square kilometer in 1998, its population density is between 11 to 19 times lower than in other provinces (Figure 2.26). One quarter of the provincial area, in the districts Kharan, Awaran and Chagai, had no more than 4 people per square kilo meter. Remoteness characterizes not only Balochistan's internal geography, but also its links to the neighbors. To the east, the Suleiman and Kirther Ranges separate Balochistan from the Indus Plain, the location of Pakistan's major urban settlements. To the north, the Tobar Kakar Range forms a natural border with Afghanistan. To the southwest, it borders scarcely populated areas of eastern Iran and to the south, and its coastal front to the Arabian Sea is bypassed by sea traffic on its way to Pakistan's ports of Karachi and Qazim – at least until Gwadar port becomes fully operational. Balochistan's location poses the challenge of integration with Pakistan's other provinces and the surrounding region through land and sea routes.

Figure 2.26: Balochistan's population is scattered across a vast land area

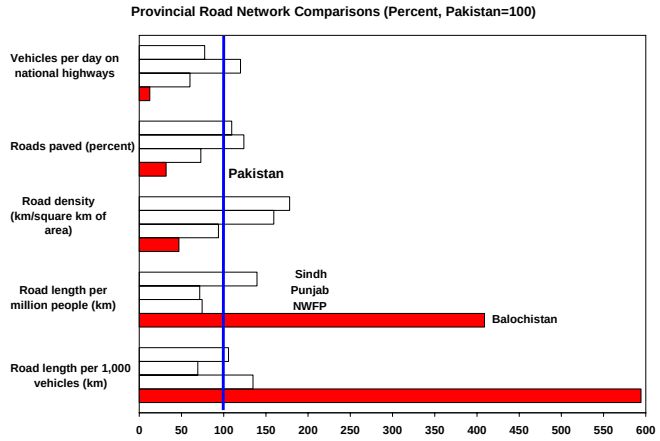


Source: 1998 Population Census

2.137 Such remoteness impedes development in various ways. Remoteness increases transport cost, which in turn, as already mentioned, segments markets and makes the province lose out on economies of scale and specialization. Similarly, as we will elaborate in the chapter on service delivery, the institutional infrastructure and capacity is spread more thinly and less effective. Since problems arising from remoteness are mediated mostly through transport, Balochistan should pay special attention to this sector. Availability of good transport infrastructure enhances the productivity of other production inputs and enhances the rate of return to formation of both physical and human capital (World Bank 1994). Transport investments can mitigate the effects of large distances, especially if it connects the province both internally and externally with the neighboring provinces and countries. The importance of transport for provincial development is well reflected in the government's development programs. The provincial annual development program recently allocated almost half of all resources for road construction. Similarly, the National Highway Authority has allocated almost one third (Rs6.7 billion) of the public sector development program for 2006/07 to Balochistan, and spends about 15 percent (Rs1.0 billion) of its road maintenance fund on the upkeep of Balochistan's national highways.

2.138 But how good is Balochistan's connectivity? The best place to look is at road transport, which accounts for over 90 percent of the passenger traffic and over 95 percent of the freight traffic. There are two starkly contrasting assessments, depending on whether we measure connectivity with regard to land area or population (Figure 2.26). On the one hand, Balochistan's road network is about one-fifth of Pakistan's total road network, comprising about 51,000 km. Hence, Balochistan road density is only 0.15 road length per square km area, the lowest of any province and less than half of the national average. In addition, barely one quarter of the roads are paved, compared to 46 percent to 69 percent in the other provinces. One the other hand, the province is much ahead of the rest of the country in terms of road length per million people and road length per 1,000 vehicles. As a result, traffic volumes on Balochistan's roads are far below those in other provinces. The upshot of these numbers is that, given Balochistan's geographic and demographic particularities, the transport strategy should be oriented towards the provincial economic and social priorities, rather than towards meeting benchmarks and indicators from other provinces.

Figure 2.27: Is the glass half empty or half full?

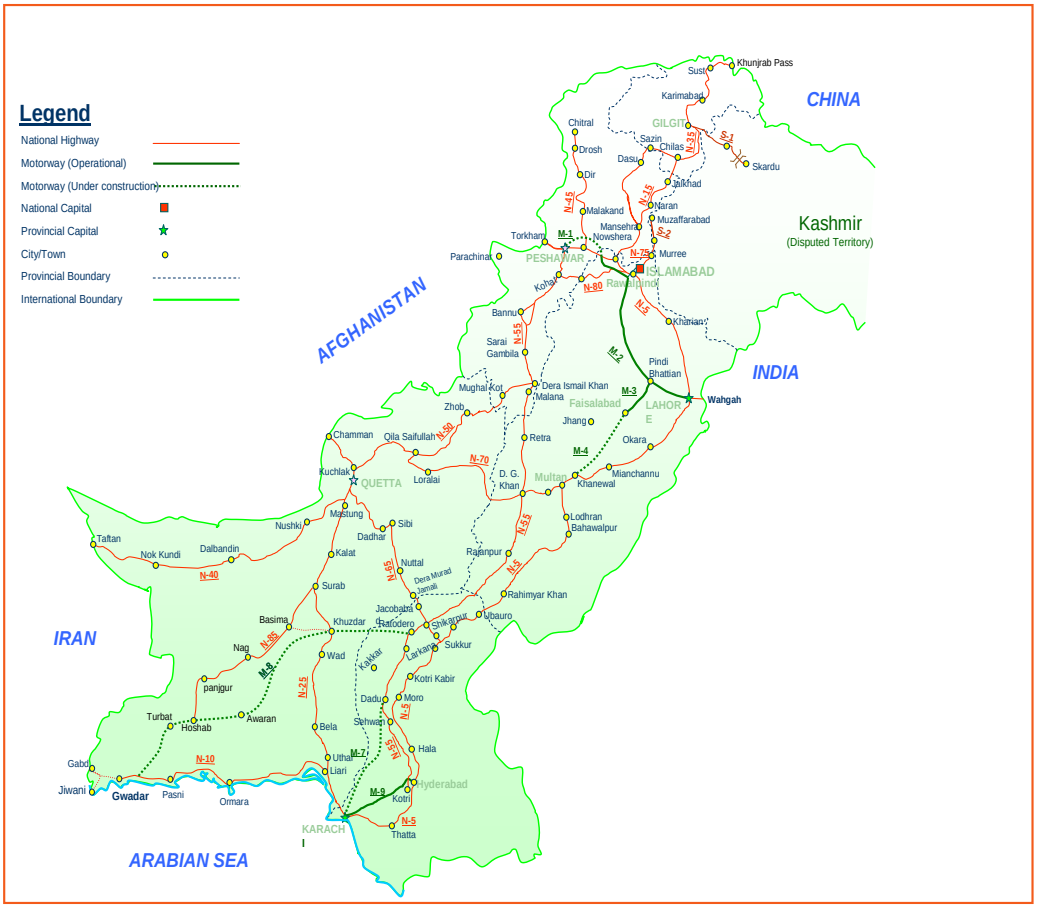


Source: World Bank

Three Layers

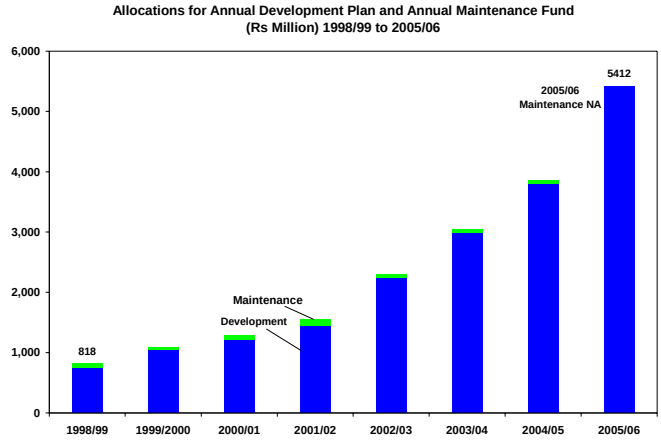
2.139 The extensive array of the national highways is the most prominent part of the road network extensive (Figure 2.28). There are 8 national highways totalling about 3,600 km representing about two-fifth of the total national highways length. The national highways N-25 and N-40 link Balochistan with Afghanistan and Iran at Chamman and Taftan borders respectively, and N-25 also links Quetta with Karachi; the national highways N-50, 65, and 70 connect Balochistan with the provinces of NWFP, Sindh and Punjab respectively; and the national highway N-10 (Mekran Coastal Road) links the new port of Gwadar with Karachi. The main limitation of the national highways network is that it permits only very low travel speeds. The commercial traffic running speeds average no more than between 35 and 45 km/hour, and trip speeds no more than 25 km/hour, for four reasons. The roads have low capacity (2-lane 24 feet wide single carriageway facility); poor geometry (the horizontal and vertical alignment is inadequate particularly in hilly terrain); poor road conditions (about one-third of the national highways (1,200 kms) are in need of rehabilitation); and poor quality of trucks (two-third of the truck fleet comprises of small, obsolete, under-powered 2-axle Bedford trucks that tend to be grossly overloaded). The result is long transit times, high transport costs, and a dismal safety record.

Figure 2.28: Pakistan has an extensive national highway network



2.140 The provincial road network of the Community and Works Department currently comprises 27,653 km. There are three principal challenges. First, the growth in the road portfolio, which now constitutes almost half of the annual development program, has led to a proliferation of new projects. It increased from Rs 1,049 billion in 1999/00 allocated on 68 projects to Rs5,412 billion allocated to 440 projects, out of which 169 are new, in 2005/06. Assuming that current funding level is maintained, budgetary allocations are fully released, and no new projects are added, it will take another 5-year to complete the on-going portfolio. This compares to the standard two-year completion periods for provincial roads at the time of project design. Such delays invariably result in substantial increases in completion costs and diluted economic benefits from the investments. In addition, an overstretched portfolio may result in abandonment of some road schemes and leaves very little fiscal space for new high priority initiatives. Second, resource allocation favors investment over maintenance (Figure 2.29). About 70 percent to 90 percent of the provincial roads are in poor to fair condition due to insufficient maintenance funding. In spite of the rapid expansion of the road projects and significant economic benefits of maintenance (every maintenance Rupee saves three Rupees in transport cost), the allocations to the annual maintenance funds have not increased. They currently cover barely one tenth of the requirements, even assuming allocations are fully executed. The large and growing maintenance backlog is putting the existing road assets at serious risk of total collapse. Various estimates indicate that Rs25 billion to Rs30 billion are needed to remove the maintenance build up. Third, about three-fourth (20,300 km) of the road network consists of shingle roads. At current funding levels, it will take another 20 years to pave all shingle roads.

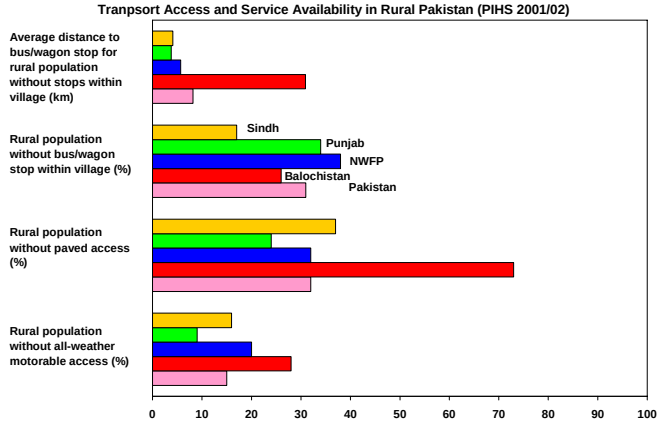
Figure 2.29: The province allocates too much for new projects and too little for maintenance



Source: World Bank

2.141 Just as in other provinces, rural roads are the weakest part of Balochistan's network. They lie at the lowest level of the transport system hierarchy and receive less attention than the rest of the network. When interventions are decided to improve it, they often focus on physical connectivity instead of services, and are subject to heavy political influence. According to the 2001/02 Pakistan Integrated Household Survey (PIHS), some 14 percent of the rural communities lack motorable access during the whole year; some 28 percent lack all-weather motorable access; and some 73 percent lack paved access (Figure 2.30). In these villages, health, education and market facilities are accessible only by earthen tracks, mostly on-foot with frequent load carriage on the head or back. In addition, 26 percent of the rural communities are not served by regular public transport services; and the distance to public transport in un-served communities is on average 31 km. Lack of decent road infrastructure imposes economic and social burden on rural households. First, travel and transport associated with household basic needs is considerable. Total domestic travel demand due to water and fuel collection and grain milling is around 2.7 hours per day per household with a corresponding transport effort of 140 kg-km per day per household. Almost all trips are carried out walking, about three-quarter of which by adult women. Second, the marketing of agricultural produce is restricted to the farm gate, and non-farming activities to the near-by village. Third, education and health outcomes are worse in villages without motorable access, partly due to the difficulties of service delivery.

Figure 2.30: Weak transport infrastructure restricts rural mobility



Source: PIHS 2001/02

Box 2.24: The Bus Service Koocha-Khuzdar as Lifeline for Employment

There was just one bus that connected the entire Koocha villages to Khuzdar. The bus would leave its first stop at around 7am, and arrive at its last stop within Koocha at 8am. It took another hour or so to get to Khuzdar. The bus did not reach all the settlements, for some of whom the nearest bus stop was nearly a day's walk away. In the evening, the bus would set off from Khuzdar at 4pm to ensure that it arrived at its terminal stop before sundown. The fare from Koocha to Khuzdar was Rs25. This amount appears high given the distance involved. The fare was considered justifiable, given the poor quality of the road for half the journey and resultantly high fuel and wear-and-tear costs. The poor road conditions also meant that there was relatively little competition for the sole bus operator. The high cost of travel to Khuzdar and the long time it took to get there meant that daily commuting was not feasible. A large number of men from Koocha lived in Khuzdar for most of the week and returned home only at weekends.

Source: Gazdar 2007a.

Land Trade

2.142 The success of the Balochistan uplift will hinge in large measure on another government ambition: to transform the province into a trade platform connecting the Gulf Region, Central Asia, Western China, and the rest of the world with Pakistan's industrial heartland. Balochistan is a window to the world not only because it is flanked by the Arabian Sea. It also has Pakistan's only border with Iran, some 700 kilometer-long, as well as half of Pakistan's 2,400 kilometer-long border with Afghanistan. The province comprises the main west Asian overland route through Iran to the Middle East, and provides sea access to the landlocked countries of Central Asia through Afghanistan. While energy trade is important to sustain the national economic expansion, cross-border trade is vital for Balochistan's economy near the border areas.

Energy

2.143 The thirst for energy could provide a strong impetus for closer trade ties. While Pakistan is energy deficient (Box 2.25), countries like Iran, Kazakhstan, and, to a lesser extent, Turkmenistan, have substantial surplus energy resources. Indeed, during the 9th session of the Economic Cooperation Organization (ECO) Summit in May 2006, Pakistan's former Prime Minister Shaukat Aziz called for the establishment of a free trade area and inter-regional oil and gas pipelines for the ECO countries.

2.144 In addition to cross-border electricity trade for Balochistan's local needs, three larger projects are under discussion. They are expected to contribute about 4,860 megawatt (MW) to the planned expansion of Pakistan's overall power generation by 7,880 MW by 2010 compared with today's capacity of around 19,540 MW. All three projects would pass through Balochistan.

Box 2.25: Pakistan's energy strategy

Pakistan aims to sustain growth of over 7 percent over the next two decades and a half. This will be possible only if the energy supplies keep pace with the rising economic activity. Pakistan's energy demand is set to increase by 8 percent to 10 percent annually. By 2030, the primary energy needs are likely to increase six-fold to 361 MTOE (million tons of oil equivalent) from today's 58 MTOE (Figure 1). In 2030, indigenous supply will only be equal to two-fifth of projected demand. When oil and coal imports are included, energy supply will still be no more than two-third of projected demand.

The 2005 Energy Security Plan foresees a three-pronged strategy to close the shortfall in energy supply up to 2030:

The utilization of indigenous resources will be rapidly expanded (Figure 2). Coal production will rise from 3 MTOE to 69 MTOE, raising its share in the energy mix from 6 percent to 19 percent; the nuclear energy supply will increase from zero today to 15 MTOE (4 percent); and renewable energy sources will rise from zero today to 9 MTOE (2 percent).

The import of natural gas from Iran and Central Asia will be encouraged. Natural gas supply will increase from 25 MTOE (50 percent) to 163 MTOE (43 percent).

The use of furnace oil, the most expensive option for base load electricity generation, will be reduced, contributing to a decline in the reliance on oil from 15 MTOE (30 percent) to 67 MTOE (18 percent

This chapter emphasizes that Balochistan's natural resources and geographical location make it central to ensuring Pakistan's energy security.

Figure 1: Pakistan plans to cover its project energy shortfall through natural gas imports and indigenous coal, nuclear and renewable energy production.

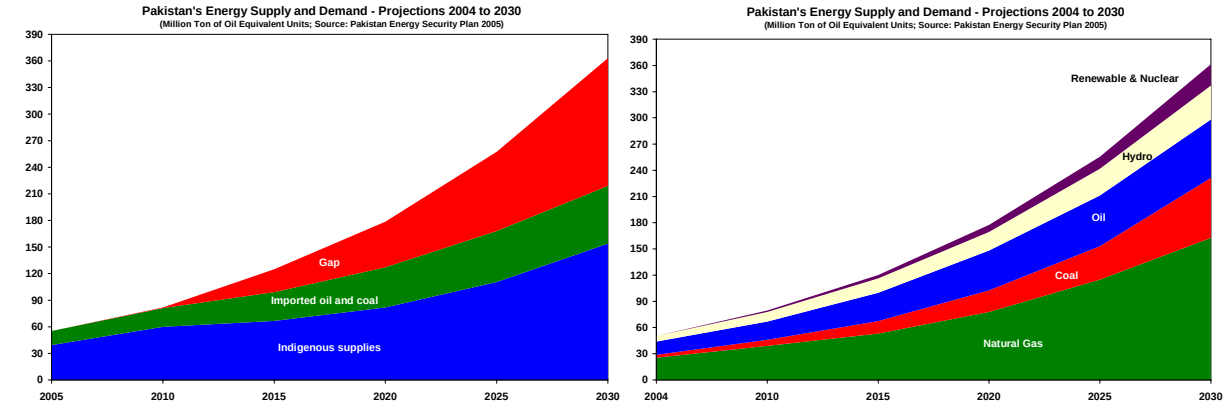
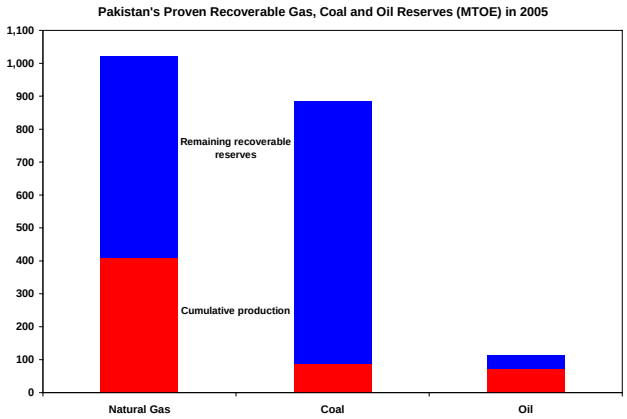
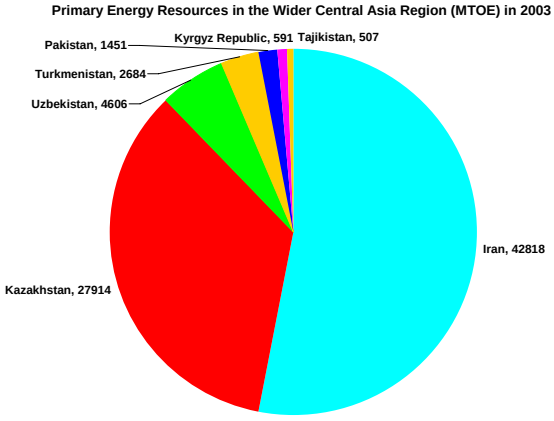


Figure 2: Pakistan has large reserves of natural gas and coal.



Source: Pakistan Energy Security Plan 2005

Figure 2.31: Some Central Asian countries have better energy endowments than others



Source: Pakistan Energy Security Plan

2.145 First, a multi-billion-dollar Iran-Pakistan pipeline could provide 2.8 billion cubic feet natural gas per day from 2010 onwards through 760 kilometer of Balochistan to Bhong, near Rahimyar Khan in Punjab. A parallel Iran-Pakistan-India pipeline is also proposed to meet India's energy needs. Second, a 1,680-kilometer gas pipeline could link the Daulatabad fields in Turkmenistan via Afghanistan to Quetta and Multan in Pakistan (Box 2.26). Third, Tajikistan's and Kyrgyzstan's surplus energy during summer season could be transmitted to Pakistan through Afghanistan.

2.146 While the differences in energy endowments suggest a strong potential for regional energy development and trade, there are also important impediments (Byrd and Raiser 2005):

- Insecurity in Afghanistan and parts of Balochistan could prevent the construction and operation of transmission lines and natural gas pipelines.
- Energy exporting countries may expect guarantees from Pakistan on payment arrangements and stability of demand, while Pakistan could be wary about becoming too dependent on energy imports from other countries.
- The choices about transmission routes can become the subject of destructive geopolitical competition, with the risk of technically and financially attractive routes being blocked and possibly inferior routes chosen due to geopolitical factors. A good example fir such competition is the gas pipeline from Turkmenistan to Pakistan (Box 2.26).
- The rudimentary energy network in Afghanistan limits the ability to transfer and utilize energy from Central Asia. Major investments would be required to exploit regional potentials.
- The regulatory framework for regional energy planning, investment financing, investment protection, contract enforcement, and policy and commercial risk mitigation is weak.

Box 2.26*:* Turkmenistan-Pakistan-India Gas Pipeline

The possibility of a pipeline to transfer natural gas from Turkmenistan through Afghanistan to Pakistan, and perhaps from there onward to India, has been under discussion for more than a decade. Such a pipeline would diversify export options for Turkmenistan, supply energy-short Pakistan and India, and provide Afghanistan with transit fees as well as enhanced access to natural gas. However, the proposal gives rise to issues related to security in Afghanistan, uncertainty about gas reserves in Turkmenistan, strained production capacities there, and a competing Iran-Pakistan-India gas pipeline project. The prospects for Pakistan-India gas trade are further complicated by political factors. Thus the issue of a gas pipeline from Turkmenistan to Pakistan and India is a matter of competition between Iran and Afghanistan, and subject to larger geopolitical issues. Partly in order to increase the prospects for the Iran route to be implemented, Iran has recently financed a pipeline that runs from Korpedzh in Turkmenistan to Kurt Kui in northern Iran, and has started importing gas from Turkmenistan. The US supports construction of the trans-Afghanistan pipeline, in part because the associated transit fees are seen as an important long-term source of income for Afghanistan, and in part because it opposes the alternative trans-Iran project. The Russian Gazprom, on the other hand, opposes the trans-Afghanistan line as it wants to maintain a monopoly over the transport of Central Asian gas and utilize that gas as a relatively cheap source of incremental supply for domestic markets and re-export. Partly to further this goal, Gazprom supports the trans-Iran project. In September 2005, Pakistan and India agreed to finalize a framework agreement for construction of the gas pipeline from Iran, which may begin in the middle of 2007 and could be finished by 2010.

Source: Byrd and Raiser (2005).

Cross-Border Trade

2.147 Beyond trade in natural gas and electricity, Balochistan could benefit more from trade in goods and services with Iran and Afghanistan — notwithstanding the weak prospects for trade with Central Asia, as already discussed. Trade with Afghanistan and Iran, which accounts for about 5 percent of the national trade, is already today the main economic activity in Balochistan's border areas and supplies vital electricity to Gwadar. Once the capacity of Balochistan's economy for processing and value addition increases, it can also support economic clusters within the province by providing access to inputs and markets.

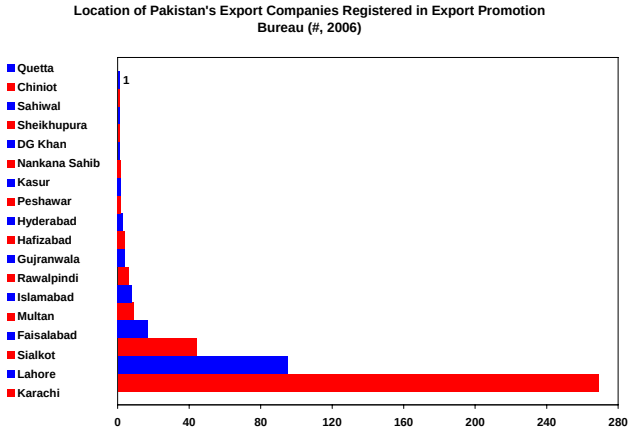
2.148 Pakistan's official imports from Iran include fuel, carpets, and fresh and dried fruits. Locations near the Iranian border, such as Panjgur and Kech in Balochistan, have achieved some prosperity due to illegal trade with wheat flour and gasoline. Pakistan and Iran signed in 2005 a Preferential Trade Agreement and intend to increase bilateral trade from US$380 million in 2004, only US$90 of which are Pakistani exports, up to US$2 billion in the medium-term.

2.149 Similarly, trade between Afghanistan and Pakistan is growing. Pakistan's trade with Afghanistan rose from less than US$100 million in 2000/01 to an estimated US$1.5 billion in 2005/06. The increase in the exchange of goods has led Afghan and Pakistan traders in March 2007 to set up a joint Chamber of Commerce to exchange information on government trade rules and regulations. Trade with Afghanistan received an addition boost on 3 April 2007, when Afghanistan was admitted as eight member to the South Asian Association of Regional Cooperation, South Asia's principal trade grouping. Much of the flow of goods is from Pakistan into Afghanistan rather than the other way around, although there are considerable re-exports from Afghanistan to Pakistan through unofficial channels. One channel of informal Pakistan-India trade goes from Mumbai through Dubai, Bandar Abbas, and Heart, and to Chaman or Noshki in Balochistan. The port of Karachi in Pakistan is the preferred transit route for Afghan trade from third countries, especially for the reconstruction and rehabilitation efforts. Presently, around 300 containers per month pass through the Karachi port for onward haulage to Afghanistan.

2.150 The rise in trade volumes of Pakistan with its western and northern neighbours is encouraging. Nevertheless, the benefits to Balochistan from trade integration with Iran and Afghanistan are still modest.

These two counties account for less than five percent of Pakistan's overall trade, and much of the trade by-passes Balochistan. Only one of the 470 export companies registered at Pakistan's Export Promotion Bureau is located in Balochistan, and the bulk of the trade is via sea-route through Karachi and Bandar Abbas rather than through Gwadar or cross-border.

Figure 2.32: Official traders don't reside in Balochistan



Source: Pakistan Export Promotion Bureau

2.151 Clearly, boosting Balochistan's stake in bilateral trade with Iran and Afghanistan will require lowering transaction costs by reducing structural and institutional impediments to the movements of goods, people, and capital. This agenda encompasses the upgrading of transport infrastructure, harmonization of custom procedures and trade regulations, and addressing concerns on narcotics trade and human trafficking. For example, with the assistance of the federal government, the provincial transport department has recently launched bus services on the Quetta-Kandahar (Afghanistan) and Quetta-Mashad (Iran) routes. In this context, three considerations are worth highlighting (Byrd and Raiser 2005).

2.152 First, the economic return to investments in physical transport infrastructure depends to a large extent on parallel progress with trade and transit facilitation. For example, Pakistan's 1965 trade agreement with Afghanistan offers a transit facility for Afghan goods reaching Karachi seaport through via land route of Chaman and Torkhum. Yet, poor facilities, long waiting times, shortage of railway wagons, and high transport charges have led Afghan traders to opt for the Iranian seaport Bandar Abbas in spite of the greater distance. A carefully sequenced and coordinated approach is required, where infrastructure investments support improvements in trade facilitation and trade policies.

2.153 Second, an initial step to make progress in the trade facilitation agenda would be better enforcement of trade regimes through border stations and transit corridor performance measurement systems. For example, Pakistani exporters claiming rebate of taxes on exports to Afghanistan have to produce an original copy of import clearance document, issued by Afghan Customs Authorities across the border. Yet, most Afghan importers are reluctant to provide copies of the requisite documents of Afghan Customs Authorities (The Dawn, 16 April 2007). In addition, while Afghanistan's trade regime is open, the existence of numerous, uncoordinated, often illegal collections of fees and other taxes at the border and inside the country constitutes a nuisance to economic activity and deters firms from trading – especially in the formal sector. In addition, facilitating informal trade and encouraging it to become formal could have a significant impact on people's livelihoods (Box 2.27). Overcoming and managing concerns about potential spill-over of security problems from Afghanistan will be critical in this regard. This requires positive incentives as much as tight controls. For example, the creation of border zones within which informal traders can enter the more protected markets in the region against a non-punitive fee could provide an help to create formal,

employment opportunities on both sides of the border, to boost custom revenues in the host country, and assist – by restricting the arrangement to a specific border zone – in managing security concerns. Finally, as WTO accession remains a distant prospect, bilateral agreements with Afghanistan and Iran, as well as Tajikistan, Turkmenistan and Uzbekistan could offer a better chance of actual progress in trade facilitation as long as these are consistent with subsequent regional harmonization efforts.

2.154 Third, the nexus of security issues and massive flows of illicit opiates impede regional economic cooperation, people movements and trade facilitation. Afghanistan is the source of close to 90 percent of global illicit production of opium. One-fifth of the opiates are estimated to traffic towards Pakistan, and about three-fifth towards Iran. In 2004, Iran accounted for almost sixth-seventh of the global opium seizures (UNODC 2006). Some 1.2 million (or 2.8 percent of the population aged 15 to 60) Iranian are said to be opium abusers, possibly the highest rate in the world. While such concerns and restrictions hinder the emergence of formalized economic relationships, porous borders and corrupt officials allow a lively informal economy to get around government restrictions on flows of goods, people, and money. Effective border management thus requires a risk-based approach, which combines efficient border clearing procedures for formal trade and enhanced border patrols to increase the costs for criminal activity. To be effective, such a border management strategy also requires the bilateral cooperation between border enforcement agencies, and improved domestic cooperation between different enforcement agencies.

Box 2.27: Illegal trade of Pakistan with Afghanistan and Iran through Balochistan

The major routes used for illegal trade from Afghanistan and Iran to Pakistan in 1997/98 were:

- *Dubai to Quetta* via Qandhar and Chaman; Qandhar, Chaman and Noshki; Qandhar and Badeen; Qandhar and Qamardin Karez; Karachi, Qandhar and Chaman; Karachi and Waesh-Chaman
- *Iran to Quetta* via Mand; Sunster; Taftan, Dalbandin and Noshki; Panjgoor and Baseema; Turbat Doshat and Kalat; or from Zahidan via Kachaow and Noshki.

The trade balance was found in favor of Pakistan at Pakistani-Afghan borders; whereas, it was in favor of Iran at the Pakistani-Iranian borders.

Illegal trade between Balochistan and Afghanistan covered the following goods:

- Agricultural commodities illegally exported to Afghanistan included wheat flour, rice, sugar, cooking oil, vegetable ghee, onion, fresh vegetables, pulses, chillies and cloth. Non-agricultural goods included fertilizers, veterinary medicines, pesticides, sports goods, surgical instruments, fans, and gunny bags.
- Agricultural commodities illegally imported from Afghanistan included fresh fruits (e.g. apple, grapes, plum, apricot, pomegranate and garma), dry fruits (e.g. raison, almond, pistatio, poppy seed and fig), pulses (e.g. gram, mash and mung), spices (e.g. cumin, coriander and malethi), fodder seeds (lucern, berseem), livestock products (sheep, goats, wool and skins) and timbers of Deodar, Kail and Pertal. Non-agricultural goods included electronic items, tyres, telephones, transport vehicles and their spare parts, Korean blankets, cloth, scrap, electric bulbs, children toys and vacuum cleaners.

Illegal trade between Balochistan and Iran covers the following goods:

- Agricultural commodities illegally exported to Iran include rice, sesamum, onion, potatoes, Gur and Kinnows. Non-agricultural goods included sports goods, surgical instruments, safety matches, finished leather, fans, sewing machines, gunny bags, power looms and their parts, bicycles, sanitary fittings and sewing threads.
- Agricultural commodities illegally imported from Iran include fresh and dry fruits, spices, vegetables, processed food items, biscuits, broiler and eggs were the major agricultural imports found illegally traded at Pak-Iran borders. Nonagricultural goods included petroleum and its products, electronic goods, carpets, tarcoal, scrap, cosmetics, soaps, dishwasher, washing powder, sui gas lamps, veterinary medicines and pesticides.

It is estimated that about 20 buses, 200 mini buses, 100 trucks, 100 Mazda vans, 200 pick-up vans, 200 taxis and one train were used for daily commuting people between Quetta and Chaman. About 25,000 people were involved in illegal trading.

Source: Sharif, Farooq and Bashir (2002).

Way Forward

2.155 The experience of Pakistan as well as of other countries shows that subsidy packages to pull industries up in remote areas rarely work well. They are either too marginal to have a affect location decisions by enterprises or impose too large a cost in terms of lost efficiency, which ultimately also harms growth of lagging regions. Instead, a strategy for private sector growth should comprise four broad elements. First, the law and order situation has to be resolved. While the security problems are concentrated in Dera Bugti and Kohlu (Figure 2.8), the incidences have spread to the area in and around Quetta, Balochistan's most important economic hub, and created *perceptions* by potential investors of grave security concerns in the entire province. Similarly, Balochistan needs to tackle the issues of corruption, crime and theft. Clearly, any robust expansion of the private sector in important parts of Balochistan is difficult without progress in these areas.

2.156 Second, the authorities can facilitate the expansion of the private sector as a whole. This involves providing an environment where private enterprises are able to conduct their business at low costs. This covers a large agenda, ranging from dealing with licenses, registering property, trading across borders, employing workers, paying taxes and enforcing contracts (Figure 2.25). Part of the strategy can include support to industrial estates with utilities and one-window business services that leverage the locational advantages of certain areas. Equally, training programs for the local population in profession and skills in short supply at the market are critical, as discussed in the education section of the next chapter.

2.157 Third, upgrading of Balochistan's road network will be crucial for mitigating the disadvantages associated with remoteness and segmentation. It can help to reduce transaction cost, open up labor markets, provide job opportunities for the poor on construction sites, and promote the diversification of the economy which in turn reduces the impact of droughts on people's livelihoods. At the level of national highways, the priority is to consolidate the extensive network:

- Develop a medium-term plan for upgrading national highways in Balochistan to proper 2-lane international design standards;
- Carry out geometric improvements at selected locations;
- Ensure adequate network maintenance;
- Institute an effective overloading control mechanism;
- Facilitate the modernization of the truck fleet; and
- (as discussed in the section on Gwadar) Link N-40 and N-85, possibly from Dalbandin to Basima, to connect Gwadar to the mineral areas.

2.158 Improvements of provincial roads by the newly established Transport Authority could be pursued through a three-point agenda:

- Prioritize completion of ongoing project over starting new projects by imposing a 'moratorium' on new projects, introduce appropriate design changes in ongoing projects to introduce economies, as well as adopting a medium-term budget plan;
- Break the cycle of 'construction-deterioration-construction' by emphasizing sustainable network management, initiating a substantially enhanced rolling periodic maintenance program, and exploring options for mobilizing user fees;
- Strengthen the Community and Works Department's technical and managerial capacities for the sustainable planning, provision and maintenance of road infrastructure.

2.159 The following approach could help in reducing rural remoteness in Balochistan:

- Emphasize basic motorized access for all by extending such access to un-served communities, limiting growth of paved roads to a core district network, promoting intermediate means of

transport, identifying a core network for regular maintenance, carrying out spot improvements on the remaining network.

- Tap additional sources for sustainable financing for network development and maintenance by increasing local resource mobilization at all levels, sharing cost with communities through cash or in-kind contributions, and seeking funding from provincial, national and external sources.
- Support greater transport connectivity through modifications in transport service regulation by allowing buses and wagons to ply on multiple routes, exploring packaging of sparsely population routes with high demand routes to enhance commercial viability, reviewing fares regularly, and providing well targeted subsidies for rural transport services.

2.160 Fourth, investments in both the hard and soft infrastructure across the border with Iran and Afghanistan are likely to yield a high payoff. This will help mutual prosperity as well as ensure that Balochistan captures a greater share of Pakistan's expanding trade with these neighbors.

2.161 Finally, the authorities can take policy measures to bring about growth in activities where Balochistan has strong resources. The most important sectors, as well as the specific government interventions, are discussed in the other parts of this chapter: minerals; gas; fisheries and coastal development; trade with Afghanistan and Iran; livestock, and crops.

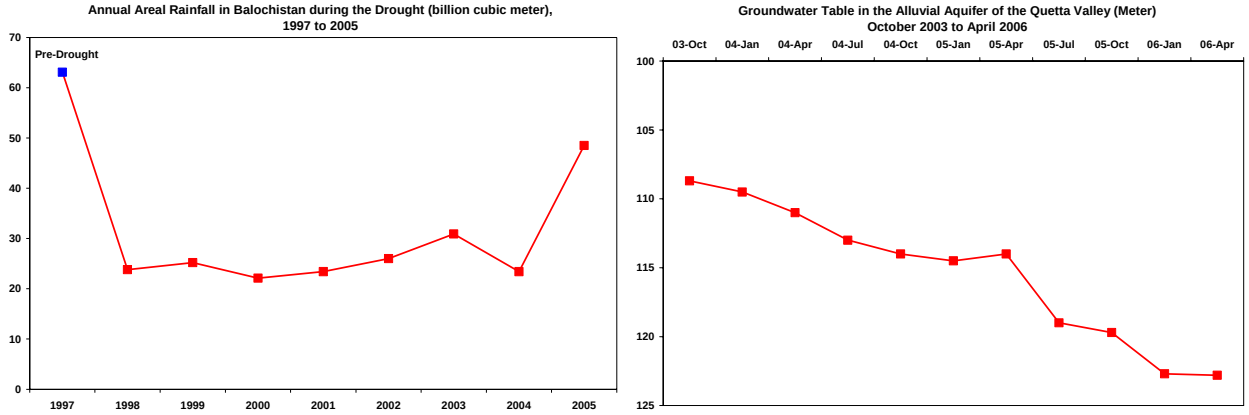
2.7 THE RURAL ECONOMY

Recovering from the Drought

2.162 Sparsely populated and remote, Balochistan is characterized by arid conditions, variable precipitation, extremes of temperatures and poor soils. The altitude varies widely and the climate ranges from coastal sub-tropical in the South to extremely hot and arid in the Southwest and Northeast to cool temperate in the North. The mean monthly temperatures fluctuate from sub-zero in the winter months of December and January to super high (up to 50 degree Celsius) in the summer months of May to August. Precipitation fluctuates widely also over a longer period of time. Because of this diverse climate, there is a wide range of crop and livestock activities across the about 22,000 localities within the province, combined with a strong specialization at a given locality. Crop cultivation dominates in the canal-irrigated districts in the northeast close to the Indus basin, non-staple and high-value products in the northern areas with a high-altitude environment, and livestock rearing in the central and western districts. With a high dependence on agriculture and the low productivity of the land, it is no surprise that economic growth and human development in the province lags behind the rest of the country with a high poverty incidence, low literacy rates and low levels of industrialization. Not only do these inequities raise concerns about the emerging development gap between provinces, but they also highlight problems with pressures on the use of natural resources that play a crucial role in determining economic outcomes.

2.163 Balochistan's agriculture is still recovering from the impact of a long-lasting drought (Ahmad 2007). From 1998 to 2005, Balochistan's annual rainfall was some 56 percent below the pre-drought level (Figure 2.33). Lack of precipitation has accelerated the lowering of the groundwater level. For example, in the alluvial aquifer of the Quetta valley, the annual lowering of water table increased threefold to fourfold to around 6 meter per year. After eight long years of scarce rainfall, Quetta received 246 millimeter (mm) of rainfall from November 2006 to March 2007, about 10 percent in excess of the 100-year average of 223 mm, suggesting that the drought might have come to an end.

Figure 2.33: Balochistan is only now emerging from an eight-year drought

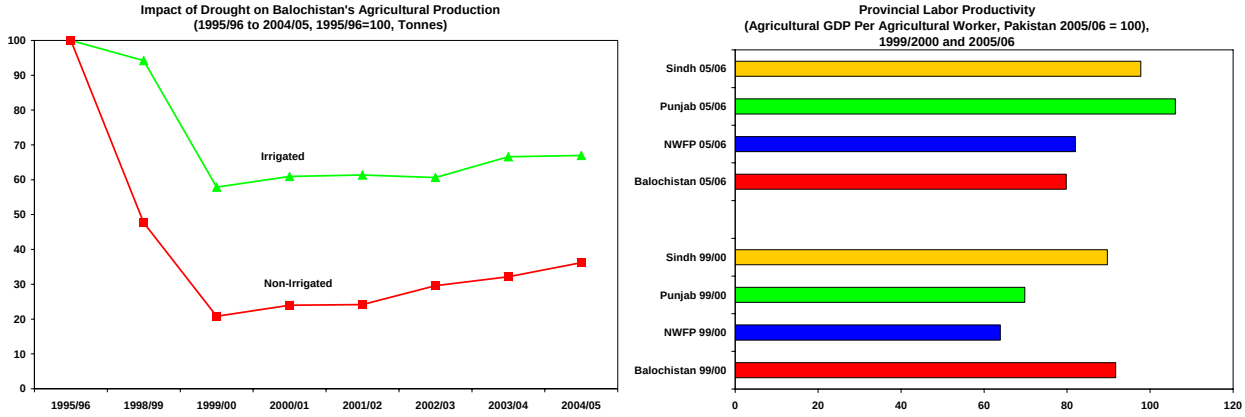


Source: World Bank

2.164 The impact of the drought on agriculture was substantial. Irrigated crop production, such as wheat, fruits and vegetables, fell by about one third, and non-irrigated crop production, such as wheat, barley, sorghum, rape and mustard, by over two-third (Figure 2.34, left panel). The drought has also damaged the productivity of rangelands, which is already under persistent pressure from overgrazing and fuelwood extraction. As agricultural output stalled, the rural population continued to expand, reducing labor

productivity in 2005/06 by 13 percent below the 1999/2000 level in Balochistan, even though it had increased from 49 percent to 52 percent in the other provinces (Figure 2.34, right panel).

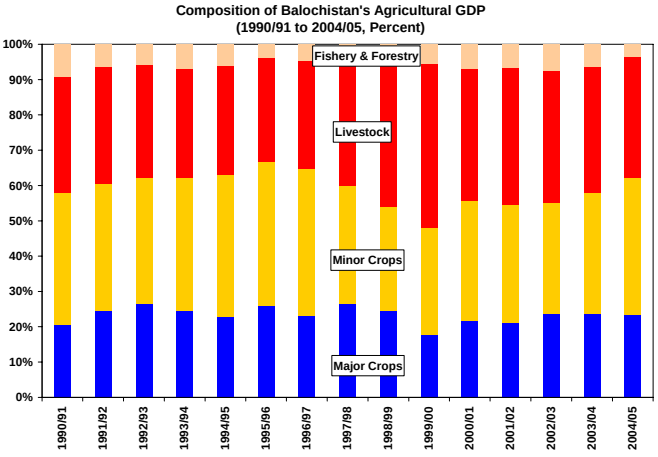
Figure 2.34: Agricultural output and labor productivity are still recovering from the drought



Source: World Bank

2.165 The drought has also affected the composition of agriculture. Since the early 2000s, the contribution of minor crops to agricultural GDP increased, while the animal flocks are being rebuilt after the drought (Figure 2.35). The changes imply that livestock is no longer the largest sector of Balochistan's agriculture. In 2004/05, the leading sector was minor crops (40 percent), including horticulture, followed by livestock (33 percent), major crops (23 percent), such as wheat, rice and cotton, and fisheries and forestry (4 percent).

Figure 2.35: The contribution of crops to agricultural GDP increased over the last six years



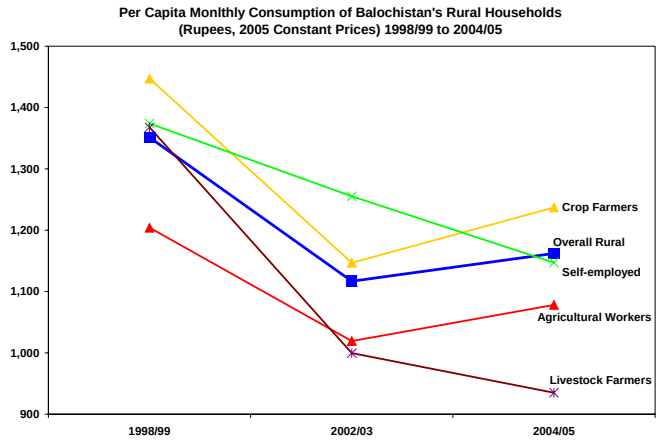
Source: World Bank

Rural Poverty

2.166 The slow re-emergence of rural activity, and especially of animal husbandry, from the drought is also evident from trends in rural consumption. Average monthly consumption in rural Balochistan is some 14 percent below the 1998/99 level, while it is unchanged in the rural part of the other provinces. Consumption rose for Balochistan's crop farmers and agricultural workers since 2002/03, but continued to decline for the self-employed and livestock farmers. The consumption levels of livestock farmers fell from slightly above the rural average in 1998/99 to some 20 percent below the rural average in 2004/05 (Figure

2.36). The impact of the drought goes beyond nutrition. Large populations of settled villages have become migrants in search of water, while traditional nomads have settled in and around water-rich localities.

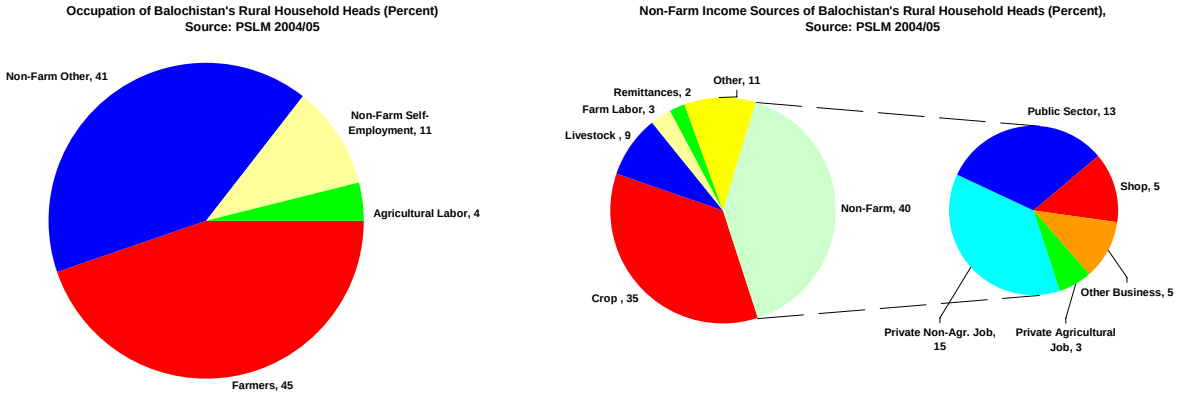
Figure 2.36: Rural consumption in 2004/05 was still far below the 1998/99 levels



Source: PHS and PSLM

2.167 Crop and fruit farming is the major occupation in the province, but over half of the rural household head's main work relies on other activities such as livestock rearing or trading (Figure 2.37, left panel). For example, some 16 percent of rural households own a shop. In terms of households resources, income from crops and fruits contributed around 35 percent; non-farm income – jobs in the private or public sector and shops or businesses – around 40 percent; and other income, remittances and farm labor another 15 percent (Figure 2.37, right panel). The weak performance of the livestock sector is also evident from its low contribution to household income. Even livestock farmers relied for close to one-third of their income from other sources.

Figure 2.37: Crop farming is the most important source of income and occupation, followed closely by non-farm work

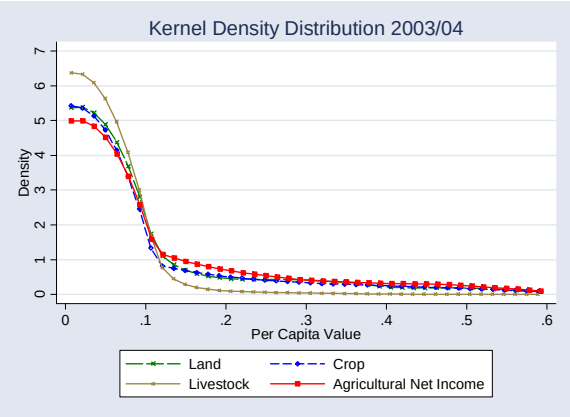


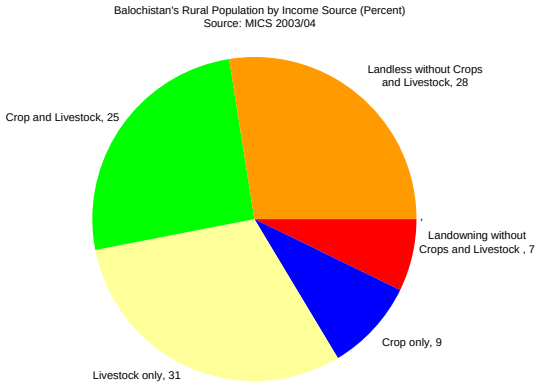
Source: PSLM 2004/05

2.168 Balochistan's 2003/04 Multiple Indicator Cluster Survey allows us to investigate more closely how livelihood systems and environmental conditions affected living standards during the drought. Inequalities of the ownership of land, crops, livestock and agricultural net income are large (Figure 2.38, right panel). In 2003/04, about one in two rural households had no agricultural net income (defined as the sum of net income from crops, livestock and animal products), two in five no livestock and no crops, and over one in

three no land. Almost one in three rural households had neither land, nor crops or livestock (Figure 2.38, left panel).

Figure 2.38: A large part of Balochistan's rural population has no agricultural income

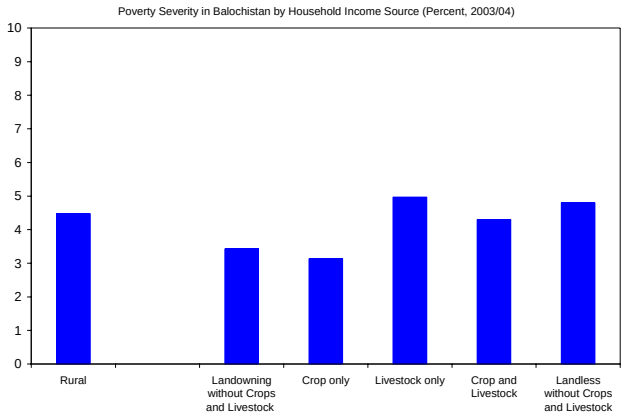


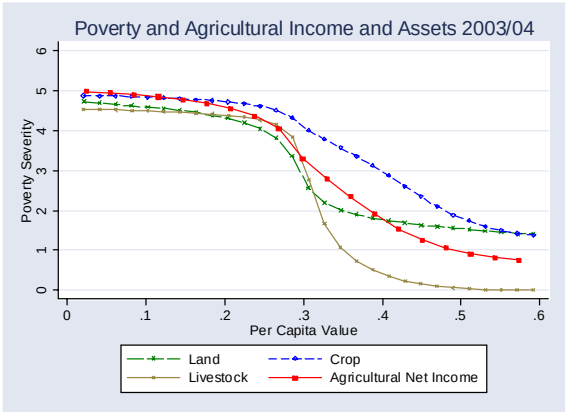


Source: MICS 2003/04

2.169 Poverty is lowest for crop and fruit farmers, and highest for livestock herders (Figure 2.39, left panel). This matches the pattern on 2004/05 per capita consumption levels from the PSLM (Figure 2.36). In addition, among the group of households without crops and livestock, landless families are much poorer than landowning families. More generally, poverty is linked to rural incomes and assets, but it declines noticeably only at relatively high levels of production and ownership. For example, poverty drops sharply only once agricultural net income rises about 25 percent of the maximum agricultural net income level (Figure 2.39, right panel). Yet, barely one in seven rural households had incomes above this threshold.

Figure 2.39: Poverty declines only at relatively high levels of agricultural assets and production





Source: MICS 2003/04

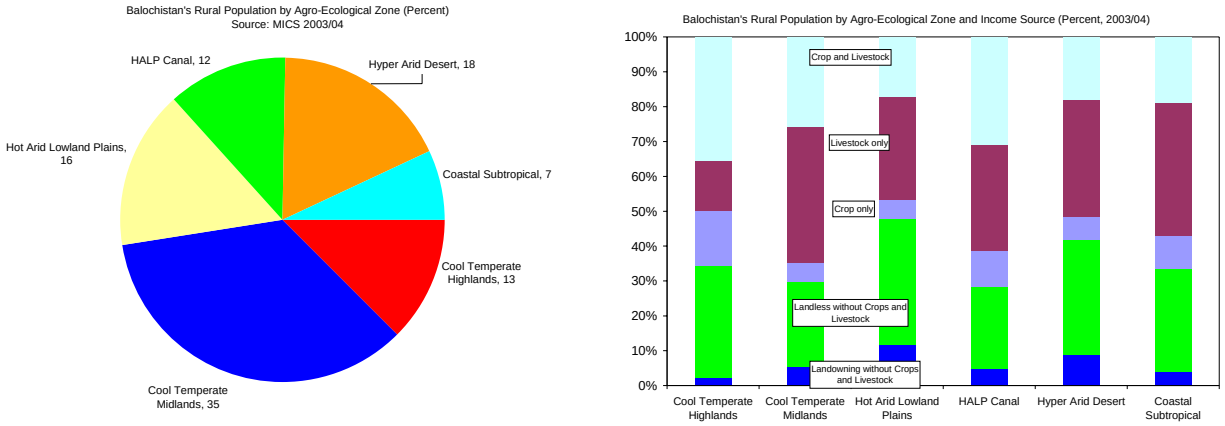
2.170 The variation in livelihood systems is linked to agro-ecological zones (Box 2.28). Close to half of the population lived in 2003/04 in cool temperate mid- or highlands (Figure 2.40). One in six rural households relied exclusively on livestock rearing in the cool temperate highlands (Zone V), compared to two in five in the cool temperate midlands (Zone IV). Across all agro-ecological zones, at least three in ten rural households got by without any crop farming or livestock rearing. Strikingly, the differences in poverty across agro-ecological zones are larger than across livelihood groups (Figure 2.41). Poverty was lowest in the cool temperate highlands, where most of the orchards are located, and highest in the coastal subtropical zone.

Box 2.28: Balochistan's agro-ecological zones

Balochistan is commonly divided into five agro-ecological zones on the basis of altitudes:

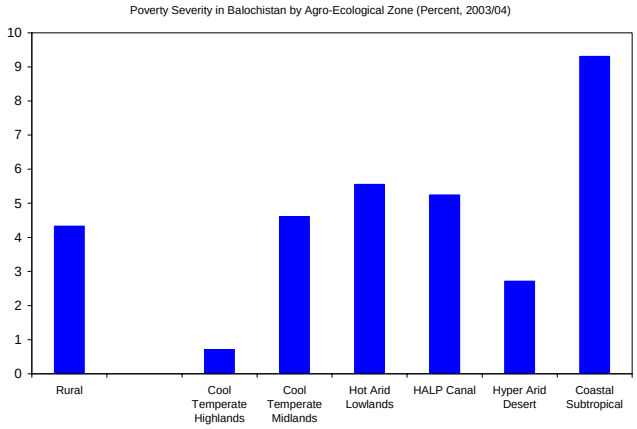
- Zone I (Coastal Subtropical, 0 to 450 meter of altitude) covers coastal areas (Gawadar and Las Bela districts) and parts of Kachhi plain;
- Zone II (Hyper Arid Desert, 450 to 900 meter) covers upper parts of Las Bela, Awaran, Kech, Kharan, Chaghi and some parts of Sibi;
- Zone III (Hyper Arid Lowland Plains and HALP Canal, 900 to 1350 meter) covers Khuzdar, Panjgoor, and parts of Bolan, Zhob, Loralai, Barkhan, and Killa Abdullah districts;
- Zone IV (Cool Temperate Midlands, 1350 to 1800 meter) covers Pishin, Quetta, Killa Saifullah, Mastung, major parts of Kalat and Killa Abdullah, and some parts of Khuzdar; and
- Zone V (Cool Temperate Highlands, above 1800 meter) covers Ziarat and some parts of Pishin and Killa Saifullah (Kan Metarzai, Zindra, Kowas, Toba Achakzai).

Figure 2.40: Rural poverty varies more across agro-ecological zones than across income sources



Source: MICS 2003/04

Figure 2.41: Poverty varies widely across agro-ecological zone

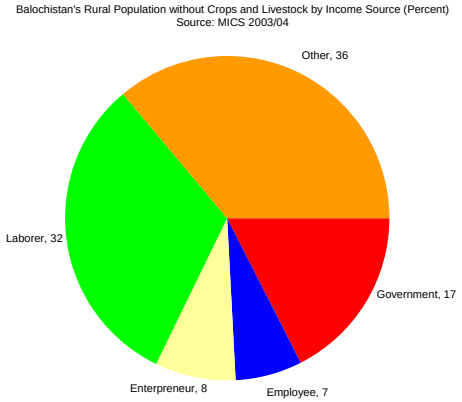


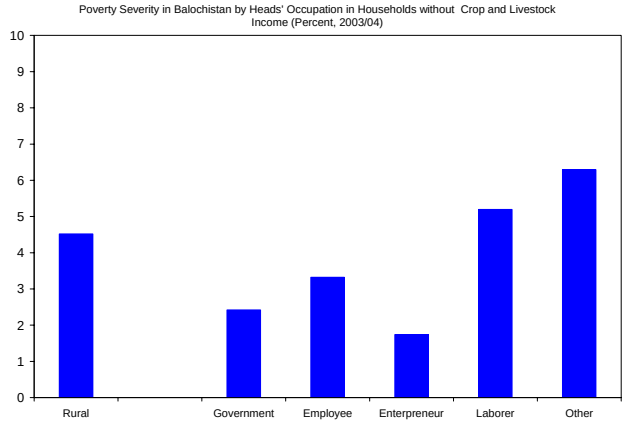
Source: MICS 2003/04

2.171 Over one third of the rural population relies on income sources other than crop farming and livestock rearing (Figure 2.42). They make a living either through entrepreneurs or employees of the public or private businesses, jobs in the informal sector, as or some other way, including social payments. The first group (entrepreneurs and their employees) experienced in 2003/04 the lowest poverty, and the last group

(informal sector jobs) the highest. One typical coping mechanism to overcome the geographical segmentation of labor markets is migration for jobs. While permanent migration is less common in Balochistan, a large part of the male prime-age population moves from the home village to the nearby city during the week and returns home only at the weekend (Box 2.24). They take up casual work, remunerated daily or piece-rate, at construction sites for buildings and roads.

Figure 2.42: Poverty among rural households without crop or livestock incomes differs widely





Source: MICS 2003/04

Way Forward

2.172 In order to promote sustained rural development, Balochistan needs a coherent rural strategy that promotes growth in the farm and non-farm sectors. While the subsequent sections will discuss in more detail the livestock, crop and water sectors, here we highlight policy issues related to the rural non-farm economy (World Bank 2006a). Over 80 percent of the Balochistan's population, and over 90 percent of Balochistan's poor people, lives in villages. Over one third of Balochistan's rural population as well as rural poor population rely on activities outside the field and rangeland as their main source of income. The limited size of the agricultural labor market, as well as the experience of other provinces, suggest that promoting off-farm income generation is an essential aspect of raising rural living standards, ensuring income diversification and reducing poverty.

2.173 *Investment climate*. Just as for urban areas, reforms in governance are needed to improve the business environment. This involves a large agenda, centered on clarifying property rights, enforcing contracts, and reducing transaction costs involved in buying and selling of inputs and final products and services.

2.174 *Access to finance*. A deepening and widening of credit markets is essential for rural growth. The most important constraints faced by entrepreneurs in rural and small town Pakistan involve access to formal finance, the cost of finance and cumbersome loan procedures. This entails promoting the use of alternative forms of collateral and more flexible loan repayment schedules. Programs to enhance the attractiveness and profitability of bank loans to rural and small town entrepreneurs are needed to complement the macro- and banking policy reforms that overcome constraints on the supply of credit. Practical training for entrepreneurs in accounting and design of business plans is one measure to improve the profitability and credit-worthiness of their firms. Improvements in land administration and land titling could facilitate efficient use of land, increase security of tenure and improve access to credit. To make headway in this area, one option for Balochistan is to learn from districts in Punjab which are computerizing land records.

2.175 *Provision of infrastructure*. Access to reliable electricity is another major constraint on rural enterprises. The national rural electrification program of the Roshan Pakistan Program, the Alternative Energy Board is providing 300 villages in Balochistan with stand-alone 40/80 watts solar electricity. The program will eventually expand to 6968 villages. More generally, provision of infrastructure can reduce operating and marketing costs, making investments in enterprises in rural areas and small towns more profitable.

2.8 LIVESTOCK AND RANGELANDS

Recovering from the Drought

2.176 Being arid and unsuited to intensive arable agriculture, livestock production dominates rural livelihoods in large parts of the province. Livestock, particularly sheep, goats and camel, survive well under harsh conditions. Small ruminants and other animals are part of the farmers' food basket; provide a cushion in case of crop failures or other adversities; generate cash to meet a household's expenditure needs and social obligations; and are in many parts of the province the sole source of farm power and transport. It is no surprise then that over two-third of rural households in Balochistan are engaged in livestock production. Even including urban areas, one in two households in Balochistan had goats or sheep in 2004/05, compared to between one in four to one in three households in the rest of Pakistan. In addition, the commercial potential of animal husbandry is increasing, even though it may heighten pressures on already scarce water resources. Urbanization and the rise in household income have boosted the demand for livestock products in the markets of Punjab and Sindh. These changes have brought about a gradual transformation to commercial production, especially for the diary and poultry sectors (Box 2.29, Figure 2.43). In 2004, Balochistan produced one million tons of milk (about one thirtieth of national production), 215,000 tons of beef and mutton (about one eighth of national production). The demand for these commodities is likely to continue to rise in future. The Government of Pakistan projects the supply gap for livestock products will increase dramatically over the next 15 years. Furthermore, the province exports abroad livestock products from small ruminants, such as wool, meat and skins. Its location allows for on-hooves exports of small ruminants to Middle Eastern markets, where they fetch a good price due to their aroma, juiciness and tenderness (Box 2.30).

Box 2.29: White Revolution

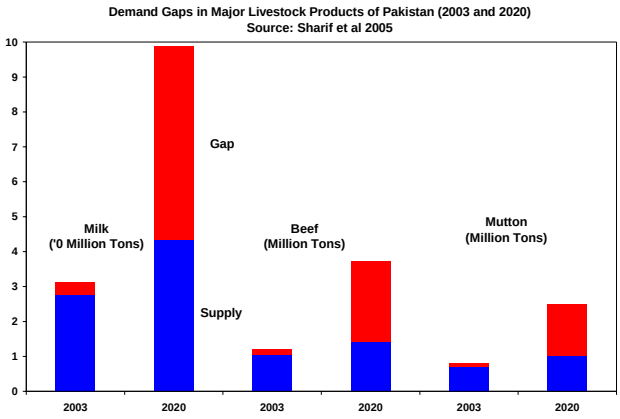
Gul Bibi lives in a small village in Aghberg valley 20 km from Quetta with her husband, father in law and six children. In the same compound also live her three brother-in laws with their families. The total number of the joint family is 26 persons mostly children. The family owns two cows and a flock of 46 sheep and goats. There is plenty of milk beyond the family needs. Since everybody owns lactating animals in the village there is no market for surplus milk. However, the butter and butter oil can be readily sold in Quetta. The churning is carried out in sheepskin by constantly shaking it for hours. The product obtained is also of inferior quality with lots of extraneous matter such as fibre from the skin. A project introduced churning machines by sharing cost with the community. Results- a high quality product with higher sale value in Quetta. Gul Bibi and others have access to some money out of the sale proceeds in the village have more time to attend to other rituals and chores.

Balochistan with its large animal wealth may start a white revolution. The milk sheds on the ranges have plenty of surplus milk for conversion into Kurad a byproduct between buttermilk and cheese. There is a lucrative market both in urban and rural areas for this product. Interest was shown by several milk processing plants from Punjab and Sindh to set up small scale processing units which could be taken up now. Similarly the Peri-urban herds offer a scope for establishing mini-scale milk collection and marketing. Lamb fattening was initiated as a backyard activity in Kalat. Young growing lambs weighing 15 to 20 Kg available with the families were selected for three months feeding. Deworming was carried out by project staff. In three months the lambs put in 15 to 18 Kg additional weight with much better exposition. Over and above the feed cost there was a net gain of Rs. 450 to 500. Any intensification of milk production has however one important caveat: it will increase the areas under cultivation with high-water demanding crops that will put further strain on scarce water resources.

Figure 2.43: Balochistan's livestock sector could expand to meet rising domestic demand

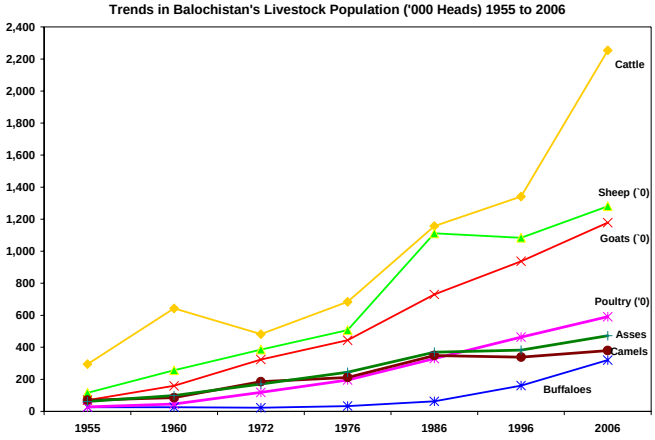
Balochistan's Livestock Products in 2004		
Group	Item	Tons ('000)
Milk	Cow	713
	Buffalo	248
	Goats and Sheep	143
Meat	Beef	19
	Mutton	192
	Poultry	3
Other	Hides ('000 #)	196
	Skins ('000 #)	11,577
	Wool	17
	Hair	4
	Edible Offals	56

Source: GOB Livestock and Diary Development.



Source: Sharif et al 2005

Figure 2.44: Balochistan's livestock population has already recovered from the drought

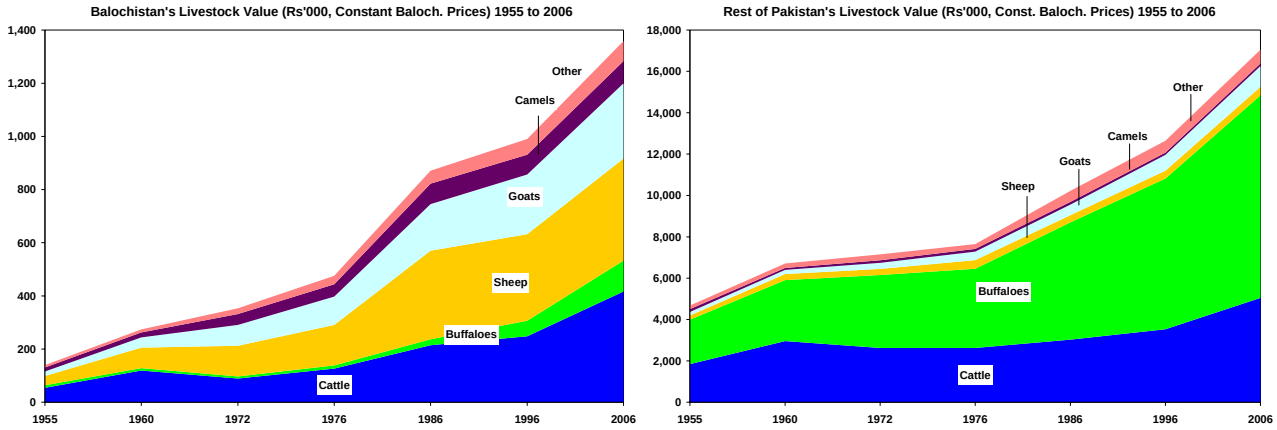


Source: Pakistan Livestock Census

2.177 Nevertheless, the bulk of the production systems remains subsistence-oriented. For the last two decades, the livestock sector has faired no better than the rest of the economy. It has stagnated at around one-tenth of Balochistan's GDP and over one third of Balochistan's agricultural GDP. One crucial reason for the poor performance is the drought. It led to a severe decimation of the small ruminants, a reduction in breeding efficiency as 2 to 3 breeding cycles were missed, distress sales of flock, a breakdown in disease immunity due to poor feeding, a drastic reduction in milk, meat and wool yield, and a reduction in biomass for livestock feeding. And while Balochistan used to export annually around 250,000 to 300,000 sheep and goats on-hoofs to Sindh (through Sibi and Bela) and Punjab (through Rakni), the livestock trade flows reversed at times due to the drought.

2.178 Encouragingly, with the exception of the mostly imported buffaloes, the livestock population has already recovered from the impact of drought (Figure 2.44). According to the livestock censuses from 1996 and 2006, the number of animals increased on average by 2.3 percent annually over the last decade. Using 2003 constant prices for Balochistan livestock, the total value of livestock grew by about 3 percent annually from 1996 to 2006 in Balochistan, similar to the growth in the rest of Pakistan (Figure 2.45). However, the impact of the drought is still felt in some localities. For example, in two villages of Koocha, the total stock of goats and sheep declined from 3,753 animals in 1996 to just 159 animals in 2006 (Gazdar 2007).

Figure 2.45: The value of Balochistan's livestock increased in line with the rest of Pakistan over the last decade



Source: Pakistan Livestock Census, and World Bank

Box 2.30: Balochistan's livestock breeds

Balochistan is home to a diverse livestock population. The flock and herd composition varies amongst the production zones in line with climatic conditions and feed requirements:

- There are four well defined breeds of sheep (Balochi, Bibrik, Harnai and Rakhshani). These multipurpose breeds produce mutton, milk and wool used for carpets, and have given rise to a cottage industry. Sheep are found all over the province but the bulk is concentrated in the north western and central highlands.
- The main goat breeds (Pahari, Kakri, Khurasani and Lehri) produce mainly meat and milk. In addition, their hair is spun into ropes, rugs and tents. High-producing goats are kept in the southern parts, and goats have recently replaced sheep in the northern areas, midlands and northwestern fringes.
- The three major cattle breeds are Baghnari, Lohani and Redsindhi. These are well-adopted dual purpose animals (milk and meat). The peri-urban herds mostly keep buffaloes of Kundi breed from Sindh.
- The camel is one humped Arabian type living mostly in the semi-desert and desert areas.
- Balochistan is a net importer of buffaloes from Punjab and Sindh, with up to 50,000 purchased every year. The dry stock is sent mostly to Sindh for grazing and retrieved on freshening. Feed ingredients, such as wheat and rice straw, are purchased from Punjab and Sindh.

Migration and Common Property Grazing

2.179 Over 90 percent of the province is classified as rangelands where livestock systems fall into three main categories: nomadic, transhumant, and sedentary. Nomadic flocks constitute the bulk of the livestock population and migrate opportunistically in search of suitable pasture. The flock size ranges from 100 to 150 small ruminants, and camels and donkeys are kept as pack animals. Transhumant production systems are found mainly in the central highlands of Balochistan and involve migration between well defined winter and summer grazing grounds, sometimes covering distances of over 80 kilometres. The sedentary flocks are relatively small, up to 50 small ruminants, and typically complement other forms of agriculture in irrigated areas where water supplies are assured. Most of these herds are owned by landless households who are employed as agricultural laborers. In urban and peri-urban areas, there are also herds of stall-fed, lactating animals, varying in size from 20 to 75 heads.

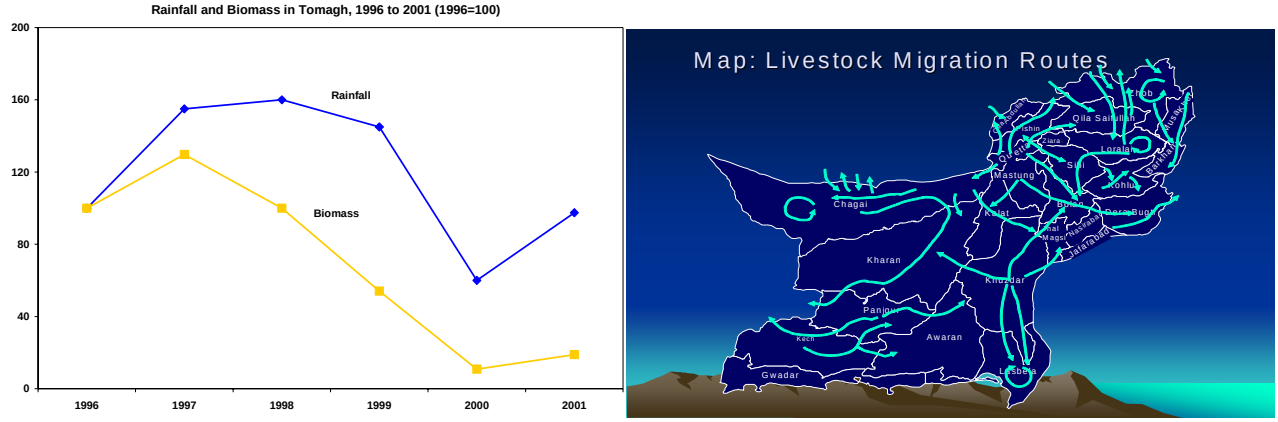
2.180 As in other arid regions of the world, agricultural traditions in Balochistan evolved coping mechanisms to manage the impacts of variable rainfall and low productivity that characterize these areas. The left panel of Figure 2.46 illustrates that fodder (biomass) availability, in a typical district of Balochistan,

is directly correlated with rainfall. But since precipitation is highly variable this translates into income volatility with devastating consequences for households clustered at the poverty line.

2.181 To mitigate these risks, migration across micro-climatic zones and common property grazing developed as coping response and form of insurance against localized droughts. But for this strategy to be effective herders need access to large areas of grazing land to move livestock from barren to productive areas. In Balochistan, the nomads tend to follow North-South routes and the transhumants the East-West routes (Figure 2.46, right panel). Flock owners shift from the highlands to the lowlands of Sibi and Kacchi for the winter and revert back to the highlands for the summer.

2.182 Continuous migration also helps promote pasture productivity, with grazing pressures adjusting to the quantity of available feed. Importantly, there is convincing evidence that at low stocking rates migratory livestock systems can be highly efficient, yielding two or three times the protein per hectare of sedentary production systems. Finally since vulnerability of animals to communicable disease rises in high temperatures, the dispersed character of nomadic herds is known to limit the risks of infection and mortality, although initially migration can also spread diseases and parasites across the borders.

Figure 2.46: Balochistan's drought in the early 2000s reduced fodder and livestock, inducing migration in search of greener pastures



Source: World Bank

2.183 But over time these traditional coping mechanisms have been rendered less effective as a buffer against adverse climate shocks. Growing human and livestock populations combined with changes in land-use patterns (sedenterization of agriculture) have reduced both the quantity and quality of common property resources across the rangelands. In recent years the vast influx of refugees has added further pressures on grazing lands. Anecdotal evidence suggests that pastures in the vicinity of refugee camps have been turned into barren and denuded landscapes that will take several decades to recover. In part of the province, the traditional system of mobility through transhumance has been adapted to new conditions (Box 2.31).

2.184 The common property system also comes at a substantial price. While the flexibility inherent in common tenure systems enables herders to limit exposure to drought risk, there is a potential cost in terms of the use and management of the natural resource base. Common resources are vulnerable to the familiar tragedy of the commons problem: joint ownership implies that private incentives to invest in pasture improvements are weak and each herder has an incentive to graze more animals on a common than is justified by the sustainability of the system. The consequence is overgrazing, desertification and productivity loss - all of which can lead to the familiar spiral of poverty fuelled by environmental degradation.

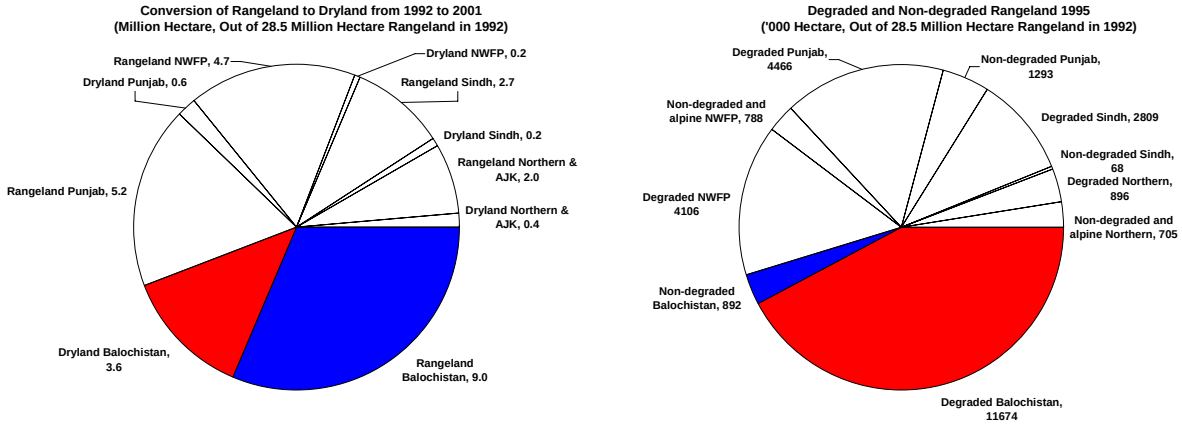
Box 2.31: The Changing Nature of Transhumance in Koocha

In Koocha, a set of villages in the district of Khuzdar, the traditional pattern of seasonal migration allowed households to sustain at least three forms of agriculture. It was common practice for a family to sow wheat after the frost in March and then migrate with its herds to Sindh where the wheat harvest was about to begin. There, it would travel across the province, performing harvest labor and availing grazing opportunities for its animals. The family would then return to its home in Koocha in time for the wheat harvest. This traditional system of transhumance appears to have ended recently. More local jobs have become available with the growth of Khuzdar town and the development of local infrastructure. The recent drought further reduced the incentive to migrate seasonally to Sindh, as the livestock herds have been devastated. Nevertheless, families are still using their connections in Sindh and other places to divide their members between more than one place in search of jobs.

Source: Gazdar 2007a.

2.185 Productivity of the rangelands is one of the key determinants of livelihoods and rural incomes. Though official statistics on the status of rangelands are unavailable, an independent assessment by the National Forest and Rangeland Resource Assessment Study from 2004 provides evidence of significant changes in land quality over a period of ten years (Figure 2.47, left panel). The assessment finds that across Pakistan the rangeland area declined from 28.5 million hectares in 1992 to about 23.5 million hectares in 2001. This implies a reduction at a rate of about 2 percent per year.

Figure 2.47: Overgrazing and drought lead to a degradation of rangeland



Sources: NFRAA 2004 and Food and Agriculture Organization 1999

2.186 The most substantial reduction in both absolute and relative terms occurred from 1992 to 1997 in Balochistan. The province appears to have lost about 527,000 hectares of grazing lands each year, and its share in Pakistan's rangeland declined from 44 percent to 38 percent. In total about 3.6 million hectares were lost in Balochistan as a result of desertification and denudation of vegetation from drought and continuous overgrazing. Estimates presented by FAO based on satellite imagery confirm the pervasiveness of the problem. In Balochistan, some 93 percent of the total rangelands in 1995 were classified as degraded by global standards (Figure 2.47, right panel). This compares to 84 percent in NWFP, 77 percent in Punjab and 56 percent in the Northern Areas.

2.187 Though the economic consequences of land degradation are hard to quantify in the absence of reliable data, it is nevertheless useful to derive broad estimates to assess the magnitude of economic impacts caused by land degradation. One simple indicator of the costs of rangeland degradation is provided by the potential *value of pasture lost* on land that can longer support grazing. Another measure is in terms of the *value of output – livestock* - that could have been raised on these pastures. Both measures are approximations and represent lower bounds of the true costs for at least two reasons. First, no account is

taken of the reduced productivity on degraded pastures that are still in use. Second, a reduction in available pasture will alter grazing pressures and the productivity of land elsewhere, but in the absence of relevant data it is difficult to incorporate these secondary impacts in the cost estimates.

2.188 There is extremely limited information available on rangeland fodder yields. Earlier studies report average yields of approximately 0.4 tons of dry matter per hectare in 1974 across Pakistan. But there is a broad consensus that conditions have changed and this figure is likely to overestimate current yields in Balochistan. To guard against exaggerating the impacts of land degradation a more conservative estimate of 0.2 tons of dry matter per hectare is used in the calculations presented below. With 3.6 million hectares of rangelands in Balochistan being rendered unfit for grazing, this implies a loss of 720,000 tons of dry matter (i.e. 3.6 million* 0.2). Since not all available fodder can be sustainably consumed by livestock, it is necessary to adjust yields for the sustainable off-take. Recent research suggests that estimating sustainable yields is both complex and controversial (Box 2.32). Accordingly a highly conservative approach is adopted and a modest fodder utilization rate of 40 percent is assumed. This contrasts with past work which has used a sustainable fodder utilization rate of 60 percent for Pakistan. These assumptions imply that approximately 288,000 tons of dry matter (i.e. 720,000 tons*0.4) could have been sustainably consumed in an average year. At a fodder price of Rs1000-Rs1500 per ton of DM, this represents a loss of Rs288-Rs433 million of feed per year. In terms of net present values, discounted at a 5 percent interest rate in perpetuity, this approximates to a perpetual loss of Rs5.7 billion to Rs8.6 billion. Corresponding to the loss of feed is a loss of income, which provides yet another dimension of the impacts of rangeland degradation. Table 2.8 presents information on feed requirements and livestock prices for sheep and goats which are the most common herd animals in the Province. With an extra of 288,000 tons of dry matter available for grazing, an income of around Rs3.1 billion could have been generated each year with sheep and goats. While acknowledging that these estimates are imprecise they are indicative of the magnitude of losses and demonstrate that rangeland depletion has emerged as a major development constraint in the province. This suggests the need for focused priority interventions to reverse the decline and help restore the asset base of an important segment of the economy.

Table 2.8: The lost rangeland could have provided fodder for 11.5 million goat or sheep

Sustainable Fodder for Sheep or Goats from Lost Pasture			
Weight	Dry matter feed requirement	Price per animal	Maximum sustainable on lost pasture
kg	*Ton per year*	*Rupees*	*Number*
40	0.25	2,700	1,152,000
Note : Based on 288,000 tons of dry matter from lost pasture.			

Box 2.32: Views on rangeland management – equilibrium versus disequilibrium approaches

The traditional approach to rangeland management was strongly influenced by the economics of forests and fisheries. This view held that land has a finite carrying capacity and if stocking rates exceeded this capacity, rangeland productivity would decline and incomes would fall. This is particularly problematic in common property pastures where joint ownership implies that private incentives to invest in pasture improvements are weak. Importantly since each herder has no control over the actions of others there is no mechanism to coordinate actions that limit grazing pressures within sustainable limits. The policy implication is that governments should intervene to either convert common pastures to private property, or alternatively place quantitative limits on the size of herds.

This view has been strongly contested by some biologists. The counter-argument holds that on arid lands rainfall fluctuations from year to year make it difficult to devise strategies and grazing management plans to cope with this variability. The light stocking required to match average rainfall can reduce the risk of forage deficit and financial loss due to death and starvation of animals in low rainfall years. But this implies lower incomes in good years, although conserving forage may produce healthier animals that command higher prices. Pastoral economies are thus conceived as "boom-bust" systems where averages are meaningless for guiding stocking rates. The system is deemed to be in a state of "continuous disequilibrium". Herd losses are part of this natural cycle that allows grazing pressures to adjust and the system to regenerate. The implication is that it is impossible to estimate optimum stocking rates with any degree of reliability. Second such estimates can be seriously misleading as they may lead to the wrong intervention in an attempt to control stocking rates. Third apart from technical difficulties in estimating the optimal herd size, the temptation to build herds in good times is deemed too great to resist. Instead policies should be aimed at promoting flexibility in stocking rates with so called "opportunistic herding strategies" that rapidly adjust grazing pressures to ecological conditions. Unfortunately little experience has been gained in applying these concepts in developing country contexts.

Despite conceptual differences, the key message from both approaches is that the root cause of poverty on the rangelands is land degradation and overstocking, so economic security can only be enhanced in volatile environments by paying close attention to ecosystem productivity and sustainability.

Constraints to Marketing

2.189 Market conditions also play a key role in shaping incomes and livelihoods on the rangelands. Despite rising global and domestic demand for meat, few of the expected benefits of a buoyant market have reached the rangelands. Distance from market hubs, high transport costs, absence of processing capacity, and lack of information on market prices remain the major obstacles that have limited product markets to being small, volatile and sensitive to the frequent supply shocks due to weather. In remote areas, about four-fifth of the animals are sold to intermediaries termed the *beoparis.* These monopsony buyers exercise greater influence over prices than the more numerous sellers. When droughts force distress sales, excess supplies emerge in these distant markets, so prices decline dramatically. Moreover, prices are set by customary rules of thumb, rather than grading systems which reward quality. Similarly, since all types of cuts are sold at the same retail price in fixed by local administrations for urban and peri-urban centers, there is little reward incentive for graziers to improve herd quality.

2.190 While the government earns substantial fees through the contracting out of livestock markets, it has failed to provide any of the basic infrastructure services (refrigeration, transport, feed and water services, etc) that are needed to integrate the livestock industry into the broader global economy. For example, there is no organized milk collection and marketing outside Balochistan's major towns or the canal-irrigated areas. Similarly, the 34 slaughterhouses in the province lack even basic facilities such as running water and electricity, partially because there are no slaughter inspections, and much slaughtering takes places in the

backyard of butcheries. There is also no regulatory authority that ensures the enforcement of standards, such as WTO requirements for meat marketing. Balochistan established only recently a quarantine facility to export livestock products to the Middle East. The processing of skins, hides and wool takes place in Sindh and Punjab due lack of local units.

2.191 Improving access to global markets through the provision of better infrastructure, information and services is clearly an important first step in improving living conditions on the rangelands. But market reforms can be counterproductive if not accompanied by complementary supply side measures. In common property systems higher livestock prices are seldom sufficient to guarantee higher incomes. High prices create incentives to raise production and stocking rates, resulting in increased pressures on land and forage productivity. Declining land productivity eventually translates into lower stocking rates and potentially lower incomes.[4] So market reforms need to be accompanied by complementary measures that convert higher prices into higher incomes. This typically requires initiatives that improve product quality and restrict grazing pressures (either through supplementary feeding or adjusting herd size) within sustainable limits to protect or rejuvenate land which is the productive asset base of the rangeland economy.

2.192 Yet, the government allocates inadequate resources to the sector to fund such measures. Budgetary spending has stagnated at only 3 percent of total budget spending. Much of the budget is absorbed in salaries so actual expenditure on improving market conditions or restoring rangeland productivity remains low. This is surprising given the significance of livestock for the economy. For example, extension services cover less than 30 percent of the livestock population. Similarly, there is little capacity to conserve local breeds at a time when farmers are breeding heavier animals to fetch higher prices. In addition responsibility for rangeland management is spread across several ministries including: the Ministry of Environment (for land and forage), Ministry of Food, Livestock and Agriculture (livestock and extension services), Ministry of Roads (transport infrastructure). The low funding and dispersion of responsibilities, in a system where institutional coordination is weak, have hindered developing a comprehensive and integrated management system.

Way Forward

2.193 Many of the problems on the rangelands of Balochistan are encountered in other arid pastoral communities across the world. Traditional systems of common property grazing have collapsed under the weight and strain of population growth and shrinking pastures. Solutions that recognize incentives and the need for public participation have shown greater success than top-down, command and control restrictions that neglect individual needs. There remain considerable opportunities for Balochistan to ignite rural growth by improving conditions on the rangelands. But a caveat is in order. The naturally barren production systems in arid areas have limited earning capacity. As population expands there will be a need to provide alternative sources of employment and livelihood through a more diversified economic base.

2.194 Nevertheless the benefit of maximizing the productive potential of the rangelands goes far beyond narrow economic considerations. Research finds that more than three-quarters of the countries with civil conflict also suffer from high levels of land degradation. While causality is not established this finding is at least suggestive: Poverty is seldom the cause of civil conflict but is often the catalyst that ignites grievance

[4] This is a very common and well established outcome in renewable resource situations and is termed the *backward bending supply curve*. It leads to a suboptimal situation where higher prices can lead to *lower* incomes. A better known example of this phenomenon is found in the fishery sector where declining fish stocks have induced higher prices. This in turn has generated stronger incentives to increase harvests, leading to even higher prices and lower fish stocks. To guard against this outcome higher prices need to be accompanied with tighter controls on harvest – either through access (property rights) reforms, or controls on use levels.

into violence by lowering the opportunity costs of hostility. Conflict is more attractive when potential recruits have little to lose by engaging in violence. Hence poverty and the absence of economic opportunities bolster rebel recruitment. This conclusion is supported by robust statistical evidence. The implication for Balochistan is that restoring the rangelands and livelihoods would help generate multiple benefits that go beyond economic and environmental considerations.

2.195 Overall, there are three key obstacles to improving conditions on the rangelands: low land productivity which is a consequence of both natural and anthropogenic factors, poor integration into global and national markets and inadequate support and extension services. These problems that have emerged over several decades of overgrazing and underinvestment, so instant solutions and quick-wins will remain elusive. The overarching need is to build durable systems that help restore productivity, livelihoods and incomes but this will be a slow process involving many actors: line departments, graziers and local authorities. It is unlikely that any single measure will be adequate, instead it will require a combination of interventions that simultaneous improve pasture conditions and financial returns. The following is a list of priorities and principles to guide improved rangeland management in the province:

- *Improve access conditions and promote market integration:* Roads, market infrastructure facilities, information on market prices aimed at lowering the costs of market access are important tools that are needed to promote integration into the global and national economy. This would help transfer the many benefits of higher demand to producers. For example, agro-livestock centers could be established at Rakni, Quetta, Chamman, Dalbandin and Lasbela. In addition the government should promoting grading systems that reward quality of produce, rather than quantity.

- *Improve supply conditions and productivity:* Improving pasture yields and resilience to drought is important both to maintain financial security and improve livelihoods. Interventions such as reseeding play a role, but have limited application in arid areas constrained by the risk of drought and high costs. Ultimately measures are needed to lower pressures on grazing systems and this requires adjusting stocking rates to sustainable limits. There is no single template to guide this process. But experience shows that successful strategies typically engage local communities and evolve solutions suited to specific cultural, economic and physical circumstances. Top-down rules imposed from central agencies are unlikely to be effective across the vast rangelands where monitoring is both costly and unfeasible. The application of the "subsidiarity" principle in these contexts suggests the need for local users to lead initiatives to control grazing pressures. The major challenge lies in convincing locals about the benefits of reducing stocking rates and improving production efficiencies. Public agencies, such as the proposed Balochistan Water Resource Management Authority in Chapter 2.10, as well as donors have a crucial role to play by providing funding to cover costs and to help create local institutions or mechanisms to facilitate this transition. The Loess Plateau Watershed Project in China funded by the World Bank is an exemplary case of a project that combined economic incentives, with ecological needs, to restore degraded pastures and create a sustainable system that has helped boost incomes and productivity (Box 2.33). Communities played a central role in determining herd restrictions and grazing bans that have allowed pastures to recover. The project was used to finance the intervening stall feeding process and to support local institutional building to sustain the new management regimes.

Box 2.33: The Loess Watershed Rehabilitation Project

The Loess Plateau covers some 640,000 square miles of the Yellow River basin. Much of it is arid with poor soils. Unsustainable practices combined with population pressures led to massive degradation of the plateau with resulting poverty. The objective of the project was to increase incomes and boost productivity by helping to restore the productive potential of the region.

The project has numerous components including structural measures to arrest soil erosion and reforestation of large tracts of land with native bushes and trees. Public participation was high, and even though not originally part of the concept, it was agreed to restrict herd numbers on common land to allow pastures to recover. The project helped to finance the costs of stall feeding and improve herd quality.

The project proponents emphasize that the key to success was the willing participation of stakeholders who were involved in developing comprehensive land management plans and took responsibility for implementation.

- *Public Private Partnerships:* Balochistan should learn from the success of public-private partnership in other provinces, which have generated dairy and agricultural input supply services, livestock health services in major cities, livestock breeding services, and technologies on feed processing and wool production. This model could be used to set up milk collection and marketing systems in places like Quetta, Pishin, Loralai and Khuzdar.

- *Drought relief and support:* The way drought relief operates will also influence incomes and productive potential. Interventions that provide supplementary feed and attempt to stabilize herd size in droughts undoubtedly help appease suffering in the short run. But this is likely to be counterproductive in the long run if it condones, or encourages, overgrazing. The new approaches to rangeland management (Box 2.32) suggest the need to promote *flexibility* in stocking responses through systems that facilitate rapid and financially viable de-stocking. When droughts occur, herders need to be given fiscal incentives to rapidly adjust stock sizes to meet grazing capacities. Simultaneously caution must be exercised to ensure that de-stocking policies do not generate perverse incentives (through moral hazard). Excessive compensation to reduce herd size during droughts would create incentives to overstock in good years, on the expectation of higher rewards during a drought. But these problems are not insurmountable and have been extensively examined by economists. The solution lies in developing more nuanced and yet practical compensation strategies that recognize these incentives.

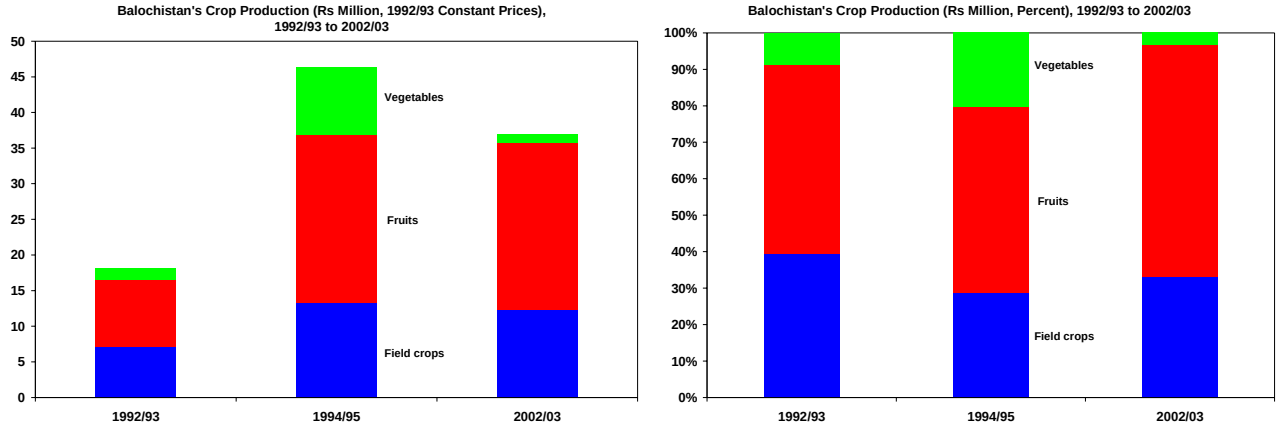
- *Research and information:* The lack of information is a key impediment to improved pasture management by both government and communities. There is little scientifically rigorous monitoring of either physical or economic conditions on the rangelands, or the conservation of local breeds. Higher priority needs to be given to developing monitoring systems and improving extension services. Experience elsewhere indicates that when information is made available pastoral communities have used this to develop economic strategies to build resilience to drought and promote community institutions.

2.9 CROPS AND FRUITS

Recovering from the Drought

2.196 Agricultural crops have a direct impact on the livelihood of the majority of the rural population. The sector contributes about three-fifth of Balochistan's agricultural value added, and close to one-fifth of Balochistan's overall value added. While these shares are virtually unchanged compared to the early 1990s, the value of production grew by about 150 percent from the early 1990s to the mid 1990s, and then declined by about 20 percent up to the early 2000s (Figure 2.48). The principle culprit for this poor performance is the drought, which induced a decline in production volumes by about 7 percent annually between 1998/99 and 2002/03. The reduction in crop values would have been larger without a marked shift to higher value crops. In the early 1990s, farmers switched from field crops to vegetables, and since the mid-1990s, from vegetables to fruits mostly in response to changes in output prices.

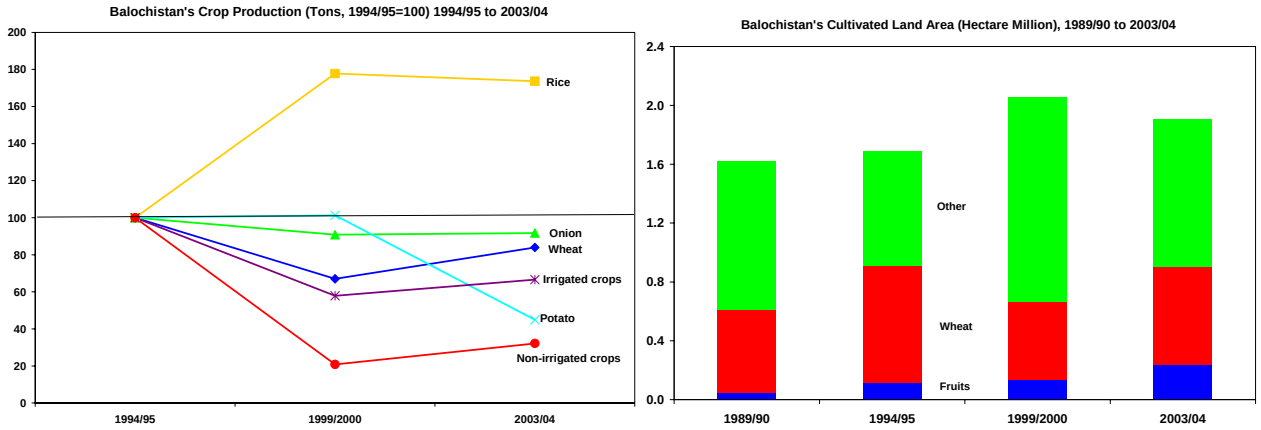
Figure 2.48: The value and the composition of crop production changed since the early 1990s



Source: Balochistan Development Statistics

2.197 The adjustments were uneven across commodities. Wheat and fruits are the two dominant crops in the non-canal commanded areas, and wheat and rice in the canal commanded areas. Wheat is mainly a winter crop, and fruits, such as dates, apples, grapes, apricots, almond, pomegranates, plum, and peach, are summer or perennial crops. Rice production has done better than wheat production, and onion production better than potato production (Figure 2.49, left panel). The trends in production levels are partly linked to changes in cultivated land area. Cultivated land area for wheat, the single most important crop, contracted from 1994/95 to 1999/2000 and expanded from 1999/2000 to 2003/04, in line with the fall and rise of production (Figure 2.49, right panel). Similarly, orchards expanded in the early 2000s, boosting their contribution to Balochistan's agricultural output. Overall, about 1.9 million hectares were under cultivation, about 6 percent of Balochistan's geographic area, in 2003/04, compared to 1.7 million hectares in 1994/95.

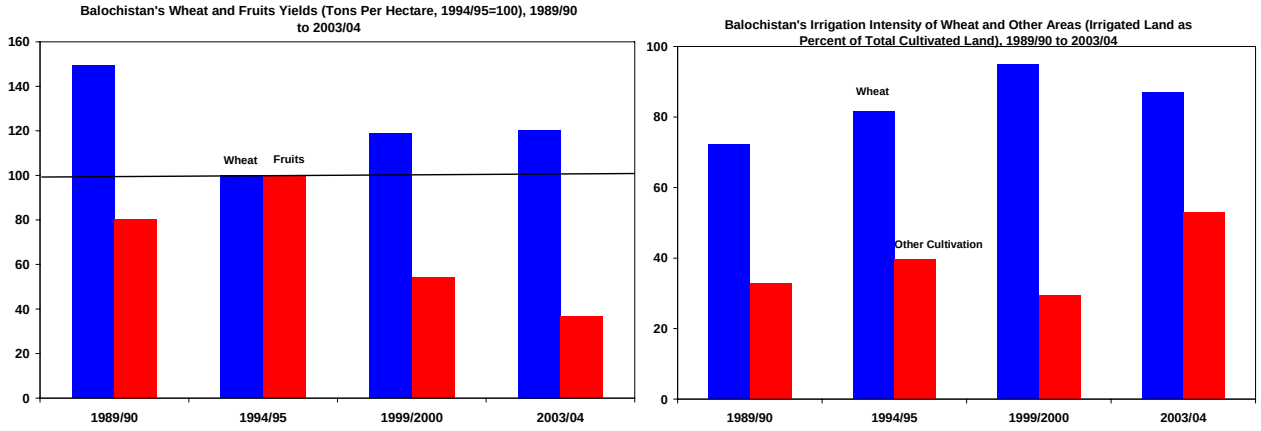
Figure 2.49: Some crops have done better than others over the last decade, partly due to differential changes in crop areas



Source: Balochistan Development Statistics

2.198 The expansion in wheat area over the last decade was associated with higher output per hectare. The increase in irrigation raised wheat yields over the last decade. Close to 90 percent of wheat areas were irrigated in 2003/04, compared to just over 80 percent in 1994/95 (Figure 2.50). Irrigation intensity rose also for other crops, but the change is more recent and from lower levels. The yield of orchards has still below pre-drought level. The planting of trees, associated with the shift from vegetables to fruits, will boost output only with a lag of three to four years. Overall, irrigated crop production declined in 2003/04 by one third compared to before the drought, and non-irrigated crop production by over two-third (Figure 2.49, left panel).

Figure 2.50: The rise in irrigated areas has supported wheat production in the second half of the 1990s, and the production of other crops in the early 2000s

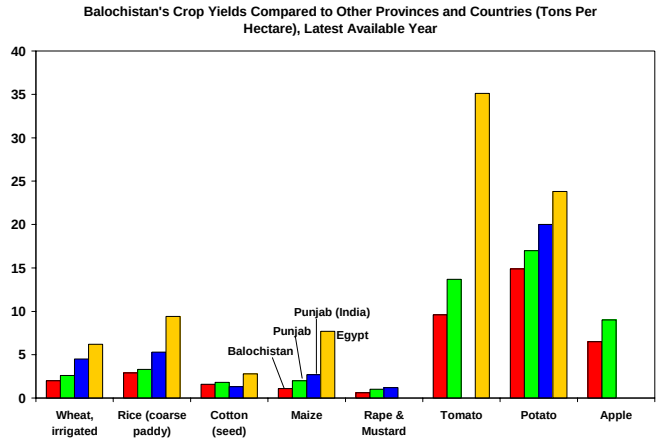


Source: Balochistan Development Statistics

Constraints to Cropping

2.199 Whatever progress to date, the yields of most crops are low compared to other provinces and other developing countries (Figure 2.51). While the fluctuating availability of water is one of the crucial causes of low yields, inefficient use of irrigation water, lack of infrastructure, lack of certified and pure seeds, and slow adoption of technology particularly for post-harvest handling, including storage and transport, have also reduced Balochistan's yields.

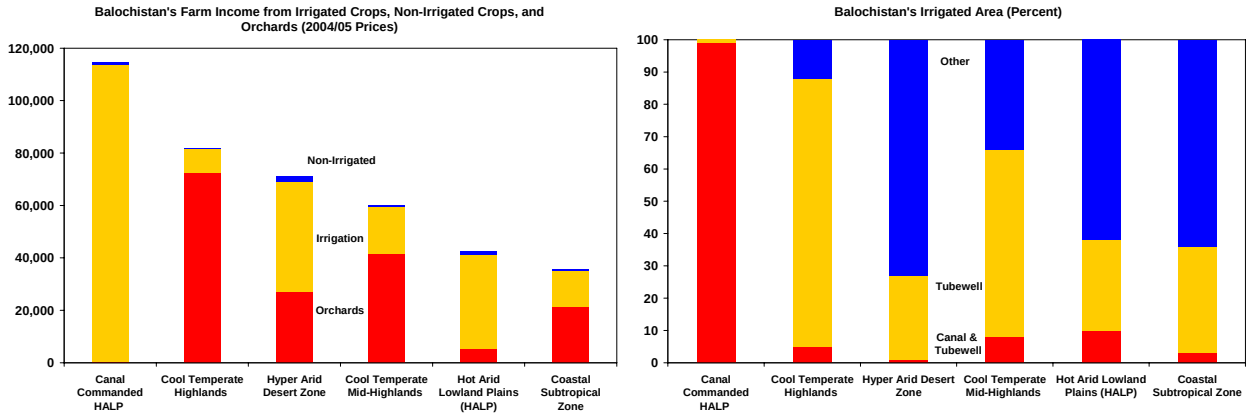
Figure 2.51: Balochistan's crop yields are low compared to other provinces and countries



Source: World Bank

2.200 *Lack of irrigation*. According to the 2000 Agricultural Census, five in six farmers in Balochistan do not have any canal commanded, tubewell, or minor irrigation scheme, and are fully exposed to the vagaries of the weather. For irrigated agriculture, farm gross margins are highest in the canal irrigated area of Nasirabad connected to the Indus River (Figure 2.52). In the rest of the province, close to half of the irrigation relies on pumping water out with tubewells, in addition to gravity flow springs (21 percent), minor irrigation schemes (18 percent), and karezes (12 percent). Such systems have helped to boost incomes in the cool temperate highlands, which depend heavily on orchards, but less so in the other hot arid lowland plains and coastal subtropical zones without major fruit plantations. Most importantly, as we will discuss in the water section, the reliance on tubewell irrigation is unsustainable in this water-scarce province. Income from non-irrigated crops dwindled as a result of the long-standing drought.

Figure 2.52: Farm incomes and irrigation systems vary widely across agro-ecological zones

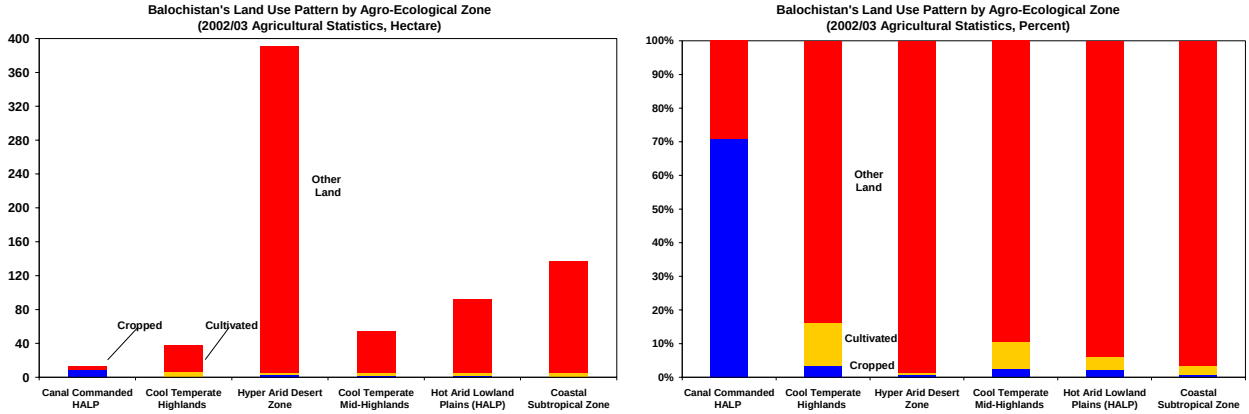


Source: World Bank, and Agriculture Census 2000

2.201 *Small land plots.* Low population densities and limited agricultural development suggest that there is no shortage of agricultural land. Indeed, about five in six rural farming households claim to have ownership of their land plots. Tenancy is widespread only in the canal commanded areas of Nasirabad, where close to two-fifth of the farmers rent land. In addition, much of the land in non-settled areas is under the discretion of tribal chiefs, but there are no official statistics of ownership patterns. Furthermore, most land plots are small. According to the Agricultural Census 2000, five in six farms in Balochistan have an area of less than 10 hectares, covering no more than 36 percent of the provincial cultivated area; and three in

ten farms have an area of less than 2 hectares. Farm sizes vary largely across agro-ecological zones. In the canal commanded areas, over two-third of the geographic area was cultivated in 2002/03, and all of the cultivated land was cropped (Figure 2.53). In the other zones, at most one-sixth of the land was cultivated, and at most half of that land was cropped. As a result of higher cultivation and cropping intensity, cropped land per farm was in 2002/03 between 230 percent and 740 percent larger in the canal commanded areas than elsewhere.

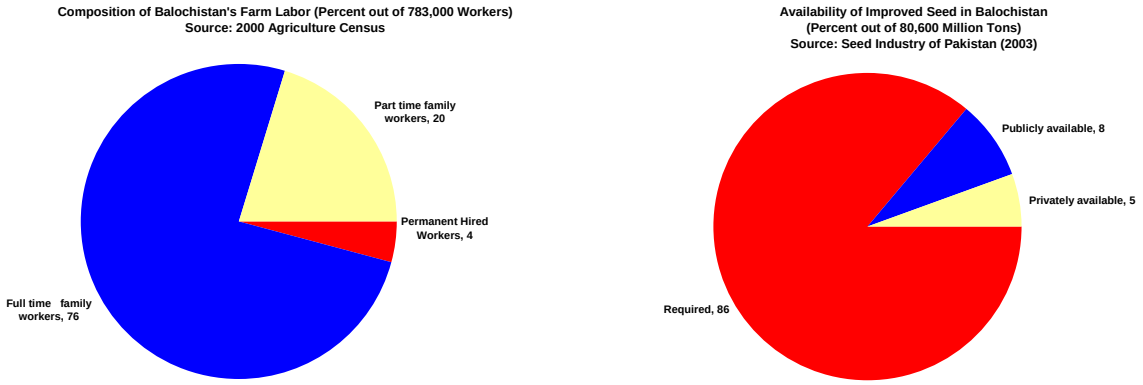
Figure 2.53: Crop land per farm in canal commanded areas is larger than elsewhere, even though geographic land per farm is smaller



Source: Agricultural Statistics 2002/03

2.202 *Reliance on family labor.* The small farm sizes and large family sizes leave little room for job creation for non-family workers. Out of the 332,687 farm households recorded in the 2000 Agricultural Census, only some 13,097 (4 percent) employ any permanently hired labor (Figure 2.54, left panel). Among farms with less than 10 hectares holding sizes, the ratio is only 2 percent. Overall, out of the 783,000 farm workers, only some 31,592 were hired.

Figure 2.54: Balochistan's farms rely overwhelmingly on family members and traditional seeds



Sources: 2000 Agriculture Census and Seed Industry of Pakistan 2003

2.203 *Low quality seeds.* Only a small proportion of Balochistan's major crops are planted with certified seed of improved high yielding varieties. For example, only about 2 percent of the estimated required improved wheat seed was available in 2000. The seed multiplication, production and marketing through the private sector have been disappointing as high transport costs and low volumes make this activity unprofitable. Out of Pakistan's 367 registered seed companies, only 3 are based in Balochistan; and out of nationwide 10,528 seed dealers, less than 0.3 percent are located in Balochistan. Private companies provided only 5.5 percent of the required seeds in 2001 (Figure 2.54, right panel). The public sector fared

not much better, and provided only 8.4 percent of the required seeds in 2001. One constraint on increasing seed availability is the low storage capacity. The province can store only 3,500 metric tons, less than one-third of the seed provisions in 2001, and only 10 percent of the storage capacity is in the private sector. The infrastructure for the certification of nursery stocks for horticultural seedlings is also still underdeveloped. Balochistan is still in the process of setting up fruit seedling testing laboratories and registration procedures of private nurseries for producing certified fruit plants.

2.204 *Lack of fertilizers and pesticides in remote areas.* The liberalization of the agricultural input supply in the early 1990s increased the use of fertilizers and pesticides. Fertilizer consumption in Balochistan rose from 30 kg per hectare in the mid-1990s to above 150 kg per hectare in the mid-2000s. As the sales of fertilizer products increased from about 110,000 million tones in 1996/97 to over 145,000 million tones in 2002/03, the share supplied by the Department of Agriculture dropped from 15 percent to 1.5 percent. Yet, lack of private profitability and the phasing out of the public distribution system implies that fertilizers and pesticides are rarely applied to field crops in remote areas.

2.205 *Inadequate equipment.* While some 60 percent of the farm area in 2000 was cultivated with tractors, the equipment used was often not suited to soil conditions. There is little knowledge about proper land preparation techniques, equipment care and maintenance. There is also a shortage of proper maintenance facilities, spare parts and qualified mechanics.

2.206 *Marketing.* Apart from wheat where the federally announced support prices acts as trend setter, the prices of the main agricultural commodities, including fruits and vegetables, are market-based. Nevertheless, the low population density and prevalence of subsistence farming outside the urban centers leads to a low consumer demand and weak agricultural marketing systems. There are no adequate storage, processing, packaging, and refrigerated transport facilities. The province has only two regulated markets: Quetta (for fruits) and Nasirabad. Elsewhere, farmers sell their produce to middlemen without knowledge of market prices and supply. While further yield improvements are important, strengthening the value chain can reap high returns to the farmer.

2.207 *Low public funding.* While agriculture, including livestock, accounts for almost one third of Balochistan's GDP and is the main source of livelihood for close three-quarter of the population, it received just 3.5 percent of the provincial annual development plan in 2004/05, compared to 7.6 percent in 2002/03. Even including water, the share of development funding declined from 42 percent in 2002/03 to less than 15 percent in 2004/05. There is no reliable information on the trends of non-development expenditures due to lack of district-level data.

2.208 *Weak institutions.* There is a dearth of drought-resistant technologies and innovative crop substitutions that reflect local circumstances. The institutional framework does not match the requirements of the field realities. The available courses and training modules at the Agricultural Training Institute are not adapted to the changing needs of the farming communities, and the capacity of the faculty staff is inadequate. The accountability of staff to, and monitoring of activities by, communities is weak.

Way Forward

2.209 Crop production is at the heart of the rural economy, as every other rural household is headed by a crop farmer or agricultural labourer. Growth in crop production is essential for lower rural poverty in Balochistan. The objectives of the 1996 Balochistan Agricultural Research Master Plan are still relevant today: improve the socio-economic status of small farmers; increase productivity; conserve ground water levels; and minimize environmental degradation. The urgency of meeting these objectives is even greater than in the past: agricultural production is still below the pre-drought level; water shortages and

environmental degradation are more pressing; and rural poverty has increased. Pakistan has already liberalized agricultural markets since the mid-1980s. Direct government intervention is limited to the domestic wheat market, and tariffs are high only for vegetable oil and milk products (Dorosh and Salam 2007). It has also increased expenditures on infrastructure and public services in rural areas. However, key policy reforms are still needed in terms of use of scarce water resources, investments in research and extension, development of markets and increases in human capital. In a number of areas, important government initiatives are already under way (Box 2.34).

2.210 *Improving the efficiency of water use*. The main priority of a new development strategy is the improvement of efficiency in water use. The over-exploitation of ground water resources has to be tackled through the removal of the subsidy for the electricity tariff, the enforcement of restriction of new tubewells installations, and the substitution of water-intensive crops with water-efficient crops. Rationalization of water use and increased availability of irrigation water could also boost the cultivated and irrigated land area by some 0.15 million hectares in the short-term, and turn some 0.8 million hectares of cultivated land into irrigated land. In addition, a shift from water-intensive crops, like rice, sugarcane and onion to less water-intensive crops, like almonds, pomegranate, and cotton, could result in large water savings. Such measures are discussed in detail in the water section.

2.211 *Raising productivity.* Given the limited supply of arable land with access to water, growth of crop farming has to rely heavily on improvements in productivity. Green-revolution technology (improved seeds, increased fertilizer use and irrigation) has benefited the other provinces of Pakistan and other countries in South Asia, but has still to reach many farmers in Balochistan. Further investments in agricultural technology are urgent, especially in view of the declining soil fertility in many areas. More funding of agricultural research for water efficient higher value crops and improvements in seed certification and quality control is needed. To develop viable, application-oriented options, public-private partnerships between extension agents, research institutions and farmers and are crucial. They could establish one-window agro-service centers, which provide local access to fertilizers, pest management technology, and other inputs and facilities. Research should go beyond the generation of technology and address the technology transfer process. Research and extension services should work jointly with farmers to carry out diagnostic surveys and test methodologies, document results of technology introductions on the farmers' fields, and to improve dissemination of production technologies to the end users. Such an adaptive approach helps to improve the applicability and demonstration effects of research.

2.212 *Leverage the value-chain.* Promoting sustainable production systems for small-scale farmers is a major policy issue. Small landholdings, low yields and lack of storage facilities lead to a large dependency on middlemen who often reap most of the gains from high crop prices. Although these farms may not contribute much in terms of market value and export earnings, they are the backbone of Balochistan's rural society and make important contributions in terms of self-reliance, food security, and environmental conservation. These farmers are under pressure to commercialize through contract farming and large-scale agribusiness. At the same time, they also search for appropriate farming systems that would be more in harmony with the natural resource base. Innovation and governance along the value chain are key elements of any strategy aimed at reducing costs, increasing profitability, and above all raising the returns to the products being sold. Faster growth in exports of non-traditional agricultural products will require improved capacity to meet Sanitary and Phyto-Sanitary (SPS) standards imposed by importing countries. Pakistan lacks a coherent strategy for quality and SPS management. There is a need to remedy the fragmented, isolated, and non-coordinated capacity of SPS management institutions and regulations.

2.213 *Investing in human capital*. Vocational training centers should provide agricultural courses and expanded at strategic locations. Important modules would include tractor and precision land levelling equipment operators; high efficiency irrigation systems operations and maintenance; repair of agricultural machinery including sprayers; farm level seed processing; and information technology for rural markets.

Box 2.34: Selected government initiatives in agriculture

Improving the efficiency of water use:

- The National Program for the Improvement of Watercourses envisions to set-up 13,466 water courses and waterstorage tanks at a cost of Rs. 5.1 billion. Some 8,000 schemes have been completed so far.
- The Aabyari project aims to bring 1,361 hectares of orchards under drip and bubbler irrigation systems in five districts. The cost is Rs. 200 million. Similarly, the Water Conservation and Productivity Enhancement Project launched in July 2007 will introduce drip, bubbler and sprinkler irrigation systems to 16,500 hectares at a cost of Rs. 2.5 billion.

Leveraging the value-chain:

- Work is under way to establish four agricultural markets in Uthal, Killa Saifullah, Loralai and Khuzdar.
- Cold storages in Khuzdar and Loralai, an apple processing plant in Quetta, and a date processing plant in Turbat are being set-up.

2.10 THE WATER CRISIS

Running Dry

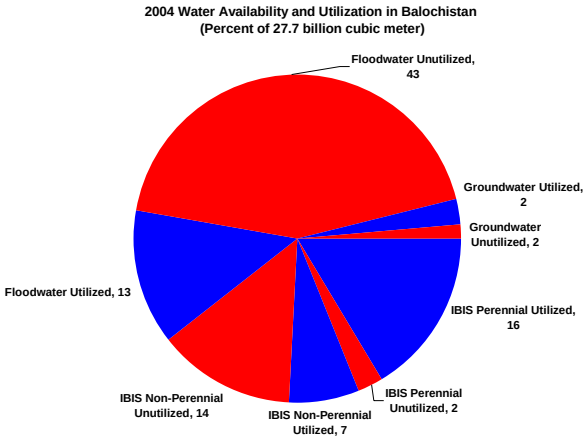
2.214 Scarcity of water is the most important constraint to rural development in Balochistan. While some 87 percent of Pakistan's total available water is found in the river system of the Indus basin, Balochistan lies at the periphery of the Indus basin and relies more heavily on non-perennial sources. Approximately 556 m^3 of water is available per year and hectare in Balochistan, only one seventh of the level in the other three provinces. And while Pakistan's water economy is highly integrated, allowing for risk pooling, Balochistan's water economy is highly segmented, with 13 distinct basins accounting for much of its vast territory. As the recent prolonged drought has shown, this makes rural livelihoods dependent on the vagaries of weather. Crop production can fail after a single drought, and livestock rearing and fruit production are vulnerable to prolonged periods of low rainfall. Since 97 percent of Balochistan's water use is by agriculture, any strategy to deal with the water shortage has to put this sector center stage.

2.215 During the last three decades, Balochistan's agricultural development has been largely driven by expansions in irrigated agriculture through increases in canal-commanded areas and the spread of tubewells**.** While this strategy has achieved notable successes, such as the growth of high value horticulture and increased yields, it favored one small part of the province over the rest, and is no longer sustainable. Excessive mining of groundwater has reduced the water table and resulted in water deficits in some of the major basins with severe environmental consequences. While there is scope to increase Balochistan's Indus basin canal water supplies in line with the National Water Accord, the system has almost used up the capacity of its surface water resources (World Bank 2005). In any case, the geographic reach of such measures is limited to the Indus basin, whereas Balochistan's 12 other water basins face a small and fluctuating water availability per hectare.

Underutilized Floodwater, Overutilized Groundwater

2.216 In spite of the persistent water shortage, Balochistan fails to make the most out of its available water resources. There are three major sources of water in Balochistan: the Indus basin irrigation system (IBIS) consist of perennial and non-perennial flows; floodwater (*sailaba*) resources comprise seasonal run-offs, especially flood-flows; and groundwater covers tubewells, as well as springs, open surface wells, and *karezes* (system of channels to bring water to irrigable land). Out of the total annually available water of around 28 billion m^3, just under two-fifth was utilized in 2004 (Figure 2.55). The surface water resources of floodwater and Indus water constitute the Balochistan's unutilized potential.

Figure 2.55: Balochistan utilizes only two-fifth of its water resources



Source: Balochistan Irrigation and Power Department

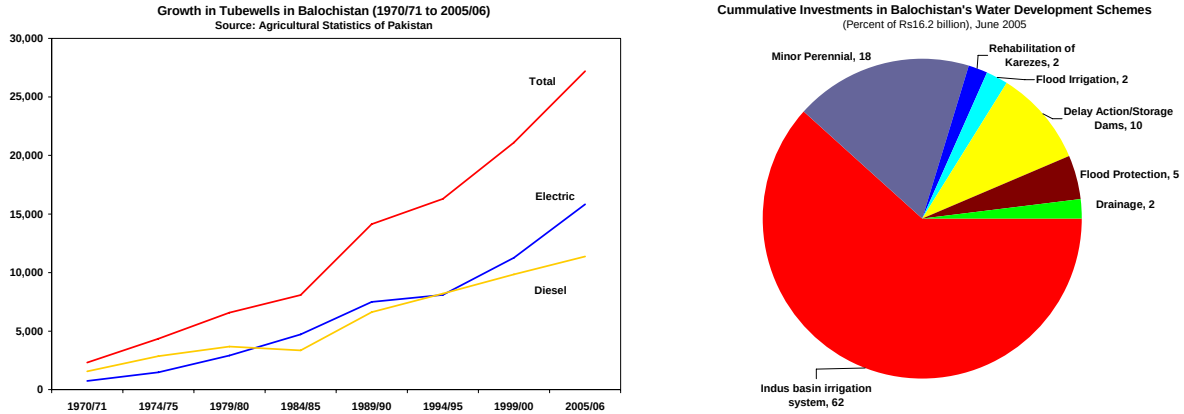
2.217 The 1991 Water Accord establishes clear entitlements for each province to waters of the Indus basin. Balochistan's current perennial IBIS flows are around 4.78 billion m^3, and will increase by an additional 0.44 billion m^3 after the completion of the Mangla Dam Raising project. The perennial flow is restricted to the two districts of Naseerabad and Jaffarabad. Annual non-perennial supplies from the Indus, available during flood years and the brief monsoon season, are estimated to be another 5.7 billion m^3. Yet, the present capacities of the Pat Feeder and Khirther canals allow the utilization of only 3.8 billion m^3 of the overall allocated flow of 10.9 billion m^3 as per the 1991 Water Accord. After the construction of the Kachhi Canal and remodelling and extension of the Pat Feeder Canal, they are projected to increase to 4.57 billion m^3 for perennial water and 1.94 billion m^3 for non-perennial water. Even after these investments, Balochistan's IBIS utilization would still fall short some 40 percent of its quota. At least two canals of the size of the Kachhi canal will have to be constructed to fully utilize the water allocated to Balochistan.

2.218 Infrastructure development in the province has focused largely on the Indus basin irrigation system. Yet, for 95 percent of the provincial area, minor flood irrigation and groundwater systems have to fulfil the needs for water use. The 1991 Water Accord allows Balochistan to develop water resources of the streams draining to the right of the Indus basin. The largest available resource is floodwater, generated in the mountains in the form of hill torrents and directed through diversion structures into an open channel network, where communities practice spate irrigation. It provides some 15.7 billion m^3, or almost three-fifth, of the total available water in the province. Currently, only 3.7 billion m^3 of this water is being utilized through small dams and traditional irrigation systems for sailaba farming. The non-captured floodwater of 12 billion m^3, which either drains back to the Indus river or to the sea from the Mekran basin, is almost equal to the live storage capacity of Tarbela dam on the Indus river, one of the largest earth filled dams in the world.

2.219 The neglect of sailaba and khushkaba (localized runoff) farming systems, as well as the lack of effective drainage in the IBIS area, have resulted in the problems of water-logging and salinity. The destruction of the natural vegetation cover, exacerbated by the recent drought, affects the retention of snow in the highlands and of rainwater in the lowlands, thus exacerbating the problem of flashfloods. As a result, the heavy silt loads carried by floodwaters quickly reduce the storage capacities of small reservoirs and render delay action dams ineffective. Estimates suggest that about a third of the vegetation cover, as compared to historical levels, is destroyed. Other environmental problems include the intrusion of saline water into fresh groundwater reservoirs in the coastal areas and at inland locations and the entry of sewage, agricultural and industrial effluents into freshwater or storm water streams.

2.220 Groundwater, which accounts for only 4 percent of Balochistan's water resources, is the most intensely utilized of the water resources in Balochistan. Some 60 percent of the annual 1.1 billion m^3 are exploited, mostly through tubewells. The lowering of groundwater is a common phenomenon in Balochistan, as farmers are now pumping beyond the depth of 250m. For example, one study of the Quetta sub-basin indicated that the total annual discharge was 97.6 million m^3, as compared to an annual recharge of 61.1 million m^3, thus resulting in an annual deficit of 36.5 million m^3. In the three major basins (Pishin-Lora, Nari, and Zoab Rivers), the rate of utilization is so high that it could lead to the depletion with serious environmental consequences.

Figure 2.56: Balochistan's government spends too much on the electric tubewell subsidy and the Indus basin irrigation system, at the expense of the bulk of the farmers and geographic area



Source: Agricultural Statistics of Pakistan

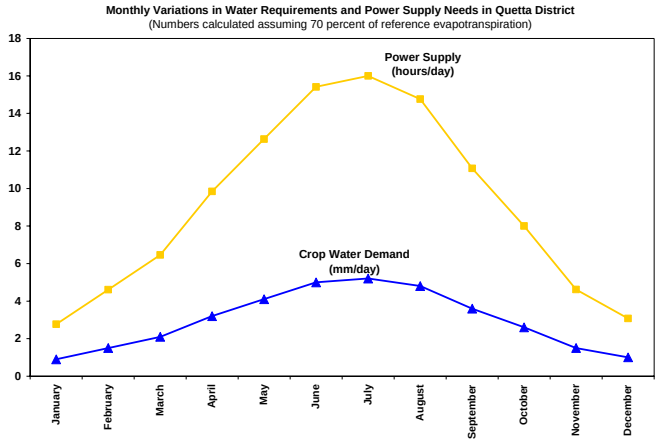
2.221 The depletion of the water table is a result of the rapid growth in the number of tubewells fuelled by the government's subsidy policy. The number of electric and diesel tubewells in Balochistan increased rapidly since the introduction of the National Electricity Grid System in the 1970s (Figure 2.56). There were around 27,195 tubewells as of 2005/06, out of which 15,824 were electric operated. The share of electric out of overall tubewells increased from just under one third in 1970/71 to 58 percent in 2005/06. Farmers pay a fixed monthly tariff of Rs. 4000 per tubewell, irrespective of usage and size, as compared to an average cost of electricity of around Rs. 40,000 per month.

2.222 The subsidy imposes a heavy burden on the cash-strapped provincial government. In 2005/06, the subsidy amounted to Rs8 billion, shared between the Government of Pakistan (43.2 percent), the Government of Balochistan (28.4 percent), and the national power company WAPDA (28.4 percent).[5] This equals to about one fifth of the provincial development spending. The cost of the subsidy is likely to go up in future – and double within the next decade according to some estimates – as the number of electric tubewells continues to grow and the pumping requirements increase due to the lowering of the water table. The cost of the electricity subsidy is so large partly due to the absence of any strategic power supply management. The power company does not need to supply 8,760 hours of electric power per year, but could make farmers happy by supplying no more than 40 percent - if provided at the right time. Crop water requirement is a function of atmospheric demand expressed as evapotranspiration, which varies considerably in Balochistan. In general, summer (*kharif*) season crops, including fruits, require more water compared to winter (*rabi*) season crops.

[5] A tubewell survey conducted by the Irrigation and Power Department found evidence for over-billing by the Quetta-based electricity company QESCO almost equal to the WAPDA contribution of the subsidy. This would suggest that WAPDA's contribution is effectively zero. QESCO has also little incentive to collect the electricity bills from the farmers as it can pass on the costs to the Government of Balochistan.

2.223 For example, peak water demand in Quetta, which is mostly a fruit growing district, is five times as high during the month of July (161mm) as in January (28mm), corresponding to a monthly variation of power needs from 3-16 hours per day (Figure 2.57). While this fluctuation in atmospheric demand provides opportunities for conservation, there is no deliberate adjustment in power supply to exploit this variation. Better management of the power supply to conform to the water requirements of crops could serve the multiple purposes of reducing the electric subsidy for tubewells, conserving precious groundwater, as well as improving productivity by reducing over-irrigation in the low demand months.

Figure 2.57: Power supply management could reduce the cost of the electricity subsidy without



Source: World Bank

2.224 In addition to this fiscal and power management issue, the subsidy raises environmental, efficiency and equity concerns. First, the fixed rate tariff provides no incentives for electric tubewell farmers to conserve water. Evidence from a farmers' survey in Balochistan reveals that the water productivity of diesel tubewell irrigated farms, which grow mostly vegetables as opposed to fruits, is approximately fifty percent higher than electric tubewell irrigated farms (ADB 2006). Equally, farmers in Bangladesh and India run the subsidized tubewells from 40 percent to 250 percent longer than those operated at market cost. Second, the subsidy is inefficient in that it crowds out necessary investments in the water sector, such as in sailaba farming. The cost of the subsidy to the Government of Balochistan exceeded by 250 percent the provincial development allocation for the water sector in 2005/06. Third, the subsidy is inequitable, as it accrues (assuming two electric tubewells per farmers) to only 7,900 electric tubewell owners, compared to a total farming population of 329,868. The beneficiaries are larger and richer landowners, especially as investment costs for deep electric tubewells amount to Rs1.5 to Rs2.0 million.

Low Water Productivity

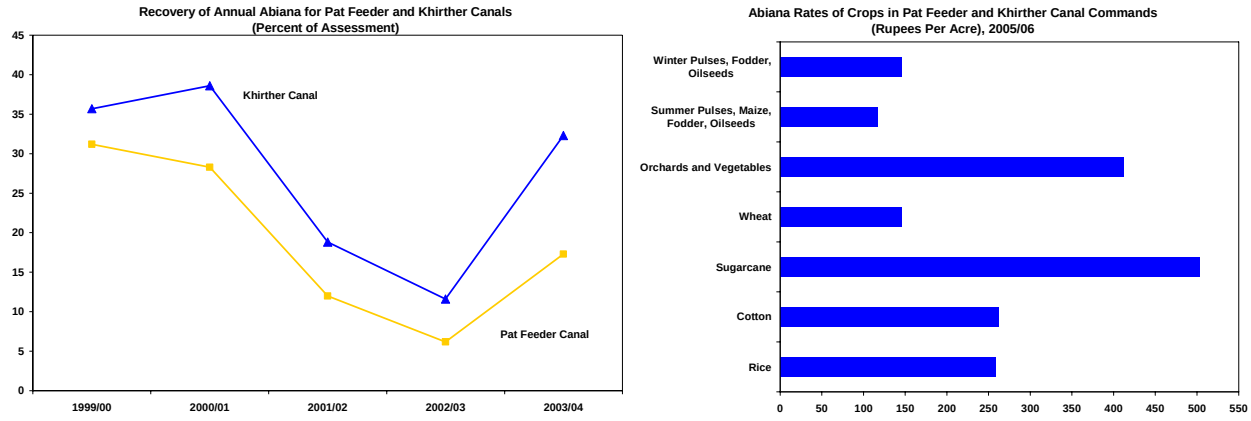
2.225 The electric tubewell subsidy is only one of the factors that aggravate Balochistan's water crisis. Agriculture in Balochistan, whether irrigated or sailaba, uses too much water as farmers do not pay the social cost of water. For example, Balochistan's water productivity for wheat is less than elsewhere in Pakistan – 0.4 kg per m^3 in the canal command areas as compared to 0.6 kg per m^3 for Pakistan overall. And Pakistan itself is not known for its efficient use of water — water productivity for wheat in Pakistan's Punjab is only about half of that of Bhakra in India's Punjab. There are three main areas in which water productivity has to be boosted: water fees, irrigation technology, and water entitlements.

Abiana

2.226 Introduced in colonial times, the provincial revenue department charges water fees (*abiana* rates) from the farmers for the supply of canal water on the basis of the size of the irrigated cropped area and the type of the crop. Yet, assessment of abiana rates are low and their collection is poor. For example, abiana was assessed at Rs69 million for the Pat Feeder and Khirther canals in 2003/04. The potential assessment, based on a canal-irrigated area of 0.365 million and documented cropping patterns, amounts to Rs182 million. In other words, exemptions to large landowners and the concealment of cropped areas by farmers reduced the assessment to only 38 percent of its potential. Furthermore, the actually collected abiana was only Rs18.6 million, or 27 percent of the assessed value and just 10 percent of the potential value. This amount is considerably below the costs of operation and maintenance of the irrigation infrastructure.

2.227 The incentives of farmers to utilize water efficiently are not just weakened through the low assessments and weak recovery (Figure 2.58). Abiana rate are also not linked to the amount of water consumed by the crop. For example, the 2005/06 abiana rate of sugarcane, which uses about three times as much water as cotton, is only twice as high as cotton. The rates for cotton and rice are about the same. Rice not only consumes more water than cotton, but is also a major cause for the twin menace of waterlogging and salinity which results in production losses in the Indus basin of around 25 percent. The poorly functioning abiana system and the tubewell subsidy imply that cropping patterns in the most parts of Balochistan are not reflective of the true costs of water. For example, sugarcane, one of the most water-intensive crops, is grown in the Pat Feeder and Khirther Canal commands, and onions and apples, also highly water-intensive crops, are cultivated in the tubewell-irrigated areas.

Figure 2.58: No more than one sixth to one third of abiana is collected, and the rates do not reflect water usage



Source: World Bank

Irrigation technology

2.228 Improved water application techniques through better timing of water supplies and improved on-farm water management could greatly increase the amount of output per unit of water. Timing and reliability of water are critical to provide farmers with the incentives to make the necessary investments in seeds, fertilizers, and land preparation to improve yields, and to ensure water availability at critical crop-growth period. For example, the current authorized water allocations of various canal commands are not in line with evapotranspiration requirements, cropping patterns, or cropping intensity, resulting in low productivity and wastage of water. There is also excess irrigation at the farm level due to poor surface irrigation hydraulics and unlevelled fields, which forces farmers to apply enough water to cover the highest

point in the field. Access to laser levelling is to date very limited as the government maintains only a few units and the private sector has not been involved in the provision of these services.

Water entitlements

2.229 Reliability of water supply is linked to a transparent delineation and enforcement of water entitlements so that water can be effectively and equitably allocated among the stakeholders. Pakistan has an unusually long and well-established tradition of water entitlements for the Indus Basin system. The 1991 Water Accord was a landmark achievement that clearly defined entitlements for each province and within province at the canal command level. However, the non-transparent implementation of this accord has meant that, as in the rest of the Indus system, there is considerable distrust in Balochistan among the various users, particularly among the small and large farmers, and among tail-end and head-end users. Water entitlements for floodwater or groundwater are not well-defined. There are no restrictions on the pumping of groundwater by tubewells - the right to exploit this resource rests entirely with the tubewell farmer, and although there are Water Committees at the district and provincial levels for licensing of groundwater their role is largely limited to regulating the spacing of tubewells. Users are also free to abstract any amount of water from minor perennial surface irrigation schemes, springs, and *karezes* without consideration of downstream usage or environmental consequences.

Way Forward

2.230 Balochistan is in urgent need for a new water strategy for the sustainable use of its scarce water resources. Such a strategy will need to focus on:

- Safeguarding groundwater resources by phasing out of the electric tubewell subsidy;
- Increasing water availability through better utilization of floodwater and better drought mitigation;
- Improving water productivity through better irrigation techniques and greater incentives for farmers to use water efficiently; and
- Launching institutional reforms for integrated planning and development with the hydrological basin as the basic unit.

Phasing out Tubewell Subsidy

2.231 Balochistan stands out as Pakistan's only province that has followed the bad example of other governments around the world by heavily subsidizing electricity for private irrigation pumping. This policy greatly exacerbates the underlying problem, which is making sure that groundwater pumping does not exceed recharge, and that the water table is not too deep. The tubewell subsidy should be eliminated through a phased approach so that the price of water reflects more accurately its scarcity. In the short term, the number of tubewells that are eligible for the subsidy should be frozen and the subsidy capped in nominal terms. In the medium term, the most desirable solution would be the introduction of a metered-tariff. Presently, there is no metering on power or water consumption, and the electricity company fixes the costs of the electricity bill. Yet, the political and administrative costs of metering and billing a politically powerful and dispersed population of tubewell farmers are large. Instead, a practical solution would be to introduce a "rational flat-tariff" that entails a gradual and regular annual tariff increase (say of 10 percent to 15 percent), combined with the rationing of power supply, so that the total power available is modulated to match the monthly variations in water needed during the crops' growth cycles. The rationing schedule would have to be developed in close consultation with farmers. This approach – which would also help to address the growing energy deficit in the country – will succeed only if there is an improvement in the

quality and reliability of QESCO's power supply. In the third phase, the subsidy should be tapered off and farmers encouraged to adopt water conservation techniques such as drip irrigation (see below).

Increasing Water Availability

2.232 Currently, Balochistan uses less than two-fifths of the total water available in an average year. The second element of Balochistan's water strategy is about re-directing resources from groundwater towards floodwater, which constitutes almost three-quarter of the unutilized water potential. There is an urgent need to shift away from irrigated agriculture towards sailaba agriculture. This requires a reorientation of the federal and provincial public sector development programs towards the introduction of watershed management and spate irrigation. It also requires a change in the approach to designing irrigation facilities. The construction of continuous-flow and fixed-rotation irrigation systems should be replaced by the construction of check and delay action dams which help to spread water over farming areas and increase the storage of water within sailaba areas. These dams will also play the critical role of recharging the groundwater. The Department of Irrigation and Power has already proposed 32 new projects with an estimated cost of Rs60.5 billion to be completed over the next five years, almost all of which are for the construction and rehabilitation of storage and delay action dams. These schemes should be planned at the basin level, and in consultation with the agriculture, forestry, and livestock departments.

2.233 During the drought period, only about one in six farmers could rely on groundwater for domestic and agricultural purposes. The majority, namely farmers in non-irrigated agriculture covering about two-fifths of the cultivated area, livestock farmers and the landless in rural areas, could not resort to this resource to mitigate the impact of the drought. Programs should be developed for drought preparedness, relief and mitigation for these farmers. For example, floodwater storage dams can provide a source of water for the drought period. Drought mitigation should become a crucial consideration in the planning of development projects.

Improving Water Productivity

2.234 A second element is to increase the efficiency of water use to increase outputs per unit of water. Improving water productivity will require concerted action on a number of complementary fronts, including:

- Providing farmers with greater incentives for efficiency through increasing and rationalizing water charges;
- Improving irrigation techniques at the farm-level;
- Improving cropping patterns so as to encourage crops that produce more per unit of water;
- Establishing a transparent and enforceable system of water entitlements; and
- Reallocating water from low- to high-value uses.

2.235 First, there is considerable potential for increasing abiana assessments and cost recovery. Abaina rates for the high water delta crops, such as sugarcane, rice, vegetables, fruits and fodders, should be raised and measures be taken to enforce the recovery of abiana.

2.236 Second, micro-irrigation techniques have considerable potential in raising the productivity of water, as shown in countries such as Israel, Egypt, and India. For example, pilot schemes should be initiated in orchard farms with more than 4 hectares to replace electric tubewells by micro-irrigation systems. Micro-tube type emitters could provide higher discharges of water at relatively low cost, for which the watercourse would need to be converted to mainline using PVC or HDPE buried pipes, and manifolds and laterals of LDPE can be used to allow application of water to plants. Medium sized farms that are normally commanded by diesel tubewells, can apply hose-fed irrigation systems. Small farms, which typically use water from wells or streams, can introduce handpump based drip irrigation systems, which have been

successfully tested in the *barani* areas of Punjab. These precision irrigation systems reduce non-beneficial evapotranspiration, apply water uniformly to crops, reduce stress, and therefore can lead to increases in water productivity. The introduction of these schemes will only be successful if farmers are made aware of the true cost of water through more rationalized pricing. In fact a politically sustainable strategy for a phased elimination of the tubewell subsidy requires the successful introduction of these techniques to reduce farmers' electricity bills. The government has recognized the complementarities between these two sets of initiatives, and is in the process of introducing high-efficiency systems in several districts with the help of the private sector with the eventual aim of eliminating the subsidy. The entire electric tubewell irrigated area could be converted to drip or sprinkler irrigation at an approximate cost of Rs.17 billion, or roughly equivalent to the overall cost of the tubewell subsidy for two years. Third, the scarcity of water implies the urgent need to focus on the water requirements of different crops, and to encourage farmers to switch to crops that yield more per unit of water consumed by evapotranspiration (Table 2.9). The Government of Balochistan recognizes this problem and initiated the replacement of rice cultivation through cotton.

Table 2.9: Proposed Substitution of Water-Intensive with Water-Efficient Crops in Irrigated Agriculture

Agro-Ecological Zones	Irrigated Cropping Pattern (Existing)	Irrigated Cropping Pattern (Proposed substitution)
I. Cool Temperate Highlands	Wheat (25%)-Fruits (63%; of which Grapes 27%, apples 25%, Other stone fruits 6%)	No major change (emphasize almonds/pomegranate); use high efficiency irrigation techniques.
II. Cool Temperate Mid-Highlands	Wheat-barley (38%)-Fruits (40%; of which apples 19%, Other stone fruits 11%, almonds 5%)-Onions (5%)-Veg (4%)-Fodder (4%)	Emphasize almonds, pomegranate; substitute onion with cabbage, cucumber, tomato
IIIa. Hot Arid Lowland Plains (HALP)	Wheat-barley (45%)-Oilseeds (10%)-Fodder (8%)-Veg (5%)-Cotton (9%)-Rice (5%)-Fruits (4%; of which apples 1%, Other fruits 3%)-Sorghum (4%)-Onions (1%)	Substitute rice with cotton, guar seed; emphasize maize where possible
IV. Hyper Arid Desert	Wheat-barley (32%)-Fruits (40%; of which dates 36%, Other sub-tropical 2%, sub-temperate 2%)-Fodder 8%-Onions (6%)-Cumin (4%)-Veg (4%)-Melon (2%)-Cotton (1%)	Substitute onion with tomato; rice with cotton, guar seed
V. Coastal Subtropical	Wheat (23%)-Cotton (22%)-Fruits (33%; of which tropical 22%, dates 8%)-Fodder (8%)-Onion (4%)	No major change, except substitute onion with cabbage, cucumber, tomato
IIb. HALP Canal Commanded	Wheat-barley (40%)-Rice (38%)-Oilseeds (4%)-Gram (4%)-Cotton (5%)-Sorghum (2%)	Substitute rice with cotton, guar seed; emphasize maize; de-emphasize sugarcane where grown

2.237 Fourth, the development of floodwater resources will need to be accompanied by the establishment of clear water entitlements for the 13 large basins in the province. The Indus system provides a good model for a set of entitlements that can be extended and adapted for floodwater, as well as groundwater, in Balochistan. For floodwater, these entitlements would need to determine trans-basin allocations, the environmental implications on wet bodies and on coastal areas, as well as the water needs of the different subsectors (agriculture, stockwater, and environmental). Over the long term, the Government should gradually move towards a market oriented system of water pricing and water rights that are transparent and enforceable, and tradable thus allowing for mutually beneficial between low-value and high-value users.

2.238 Fifth, shifting water use from agriculture to municipal and industrial uses can increase the economic productivity of water. In that way, promoting structural change and urbanization contributes to raising water productivity.

Launching Integrated Water Resource Management

2.239 Addressing the water challenges requires a change in the policy planning and execution process for Balochistan's water sector. What is urgently required is an integrated approach to water management and supporting institutional arrangements to coordinate across departments and between the province and local governments. The poor linkage between key stakeholders (such as the agriculture, forestry, livestock and irrigation departments) and the lack of coordinated planning makes it difficult, for example, to develop and execute a sustainable strategy for the development of floodwater resources as the construction of storage dams requires a range management plan to reduce silt flow into reservoirs through re-vegetation and protection of the catchment areas.

2.240 Encouragingly, the Government of Balochistan has recently approved the Integrated Water Resource Management Policy that calls for a basin approach to water management considering all sub-sectors for water. This approach is crucial as it is the best method for efficiently harnessing floodwater, resolving inter-basin conflicts, and encouraging the participation in the process of development. The policy is however meaningless without an effective institution to implement it. The government should initially establish a sound watershed management plan, and then establish a Balochistan Water Resource Management Authority (BWRMA) as an apex body for the planning and development of integrated water management projects, and for the provision of the necessary independent and transparent regulatory environment to promote private sector investments in the sector. To achieve these objectives the BWRMA will require administrative and financial autonomy to attract the necessary high-caliber professionals and to promote transparency and credibility. After the establishment of the BWRMA, Basin Water Boards should be established for each of the 13 basins. These boards would be responsible to support the implementation of the projects by the line departments through providing the stakeholders participation and coordination at the basin level.

2.241 Building capacity will be a long and gradual process – an outcome of growth and development as much as an input to it. What is required and feasible in the short to medium term is a focus on creating pockets of technical excellence, through providing the requisite incentives to staff, in a few high priority areas. An autonomous BWRMA, that has the ability to pay staff market wages to attract high caliber technical experts, is one such reform. Similarly, there is an urgent need to upgrade the capacity of the On-Farm Water Management (OFWM) Directorate under the Department of Agriculture. This body is responsible for the critical tasks of lining of watercourses, construction of water tanks, and installation of drip irrigation systems. The OFWM Directorate should be restructured into a full fledge Directorate General with Directorates for groundwater, surface water, farm design and land forming and water productivity.

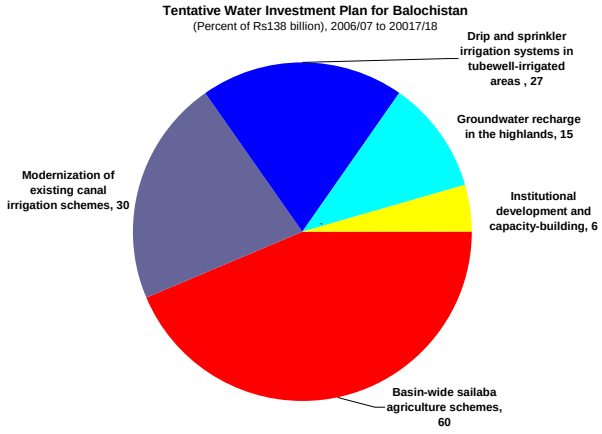
2.242 Another priority is to improve the adequacy and reliability of data for more effective planning, development and management of water resources. In view of the size of the province and the importance of the water sector to its economy, the existing two networks of hydro-meteorological data collection (the Directorate of Planning, Development and Monitoring of the Irrigation and Power Department and the Pakistan Meteorological Department) are not adequate. Problems associated with data are: inadequate and lack of well planned spatial coverage of the measuring stations for surface water flows, groundwater and climatic data; inadequately trained technical manpower; differences in instrumentation and measurement techniques between the two agencies; lack of timely data processing and analysis; discontinuity in records; and limited coordination between the two agencies.

Financing Water Development

2.243 The federal government undertakes the vast majority of the investments in the water sector in Balochistan. WAPDA implements a portfolio of approximately Rs43 billion, including the Kachhi canal project (Rs31 billion), Mirani dam (Rs5.8 billion), RBOD-III (Rs4.5 billion), and Sababakzai dam (Rs1 billion). In addition, the Irrigation and Power Department also implements seven federally-funded projects with a total allocation of Rs4.5 billion. Balochistan's future strategy will require increased investments in floodwater resources and high-efficiency irrigation systems, undertaken a part of an integrated basin-wide approach. In addition to these federal and provincial projects, an investment plan over Rs138 billion for the next decade would be required to address Balochistan's water crisis (Figure 2.59).

2.244 This illustrates that raising the productivity of water and increasing the efficiency of agriculture will require substantial technical and financial resources. These inputs are clearly beyond the scope of the public sector to delivery on its own. Recently, some established companies have expressed an interest in initiating irrigation support services for farmers in areas of drip irrigation and improved horticultural production. The authorities must make a concerted effort to harness private sector support in this and other endeavours.

Figure 2.59: Balochistan's water strategy requires substantial funding



Source: World Bank

PART 3: DELIVERING SERVICES

3.1 OVERVIEW

3.1 Service delivery is at the center of Balochistan's development agenda. Ensuring citizen satisfaction with the access to and quality of basic services will require greater transfers of resources for service delivery by government, donors, and communities alike. While it is difficult to calculate precisely the required funding levels, it is certain that policy and institutional reforms are needed to ensure that the money is well spent. In many villages and communities around Balochistan, the government is falling short on its obligations in ensuring basic education and health outcomes, especially to poor people. This includes children who remain illiterate because they do not have a functioning school in their village. It also includes the expectant mother who does not receive prenatal care because she cannot afford the time or the fare to reach the nearest health center or because she considers it a waste of time based on the quality of services she receives. To meet this responsibility, governments and citizens need to make education, health, water, sanitation, energy, transport work for poor people (Table 3.1).

3.2 In 2004/05, provincial user satisfaction with public services was worst in Balochistan in six out of seven services, and second-worst in the seventh. The first chapter analyzes cross-cutting issues that limit the ability of Balochistan's public administration to deliver good services. It looks at the size and structure of the bureaucracy, the extent of merit-based recruitment, the quality of career management, and the degree of administrative devolution. It also examines the implications of political fragmentation and tribal identity on the quality of public administration and service delivery. The chapter argues that the Government of Balochistan can take some practical steps to make the state an effective and accountable service provider. They involve improving the effectiveness of the bureaucracy by putting in place institutional mechanisms to ensure merit-based recruitment and good management of staff; devolving more administrative authority to local governments to improve the accountability of service providers; and using the power of information to increase the incentives of policy-makers for better public goods provision.

3.3 The next chapter turns its attention to education. It argues that the comparatively good performance of Balochistan's public school system at grade 4 testscores is largely due to the bad performance on access. Balochistan's education system is failing when some 700,000 out of 1,100,000 primary-school age children are not getting a chance to learn how to read and write. The low enrolment of students reflects low access in disadvantaged backgrounds, as well as the small number of private schools. For example, children from rural areas make up only 70 percent of the children aged 5 to 9 attending school, but 87 percent of those not attending school. And while the private sector enrolled in 2004/05 from 12 percent to 20 percent of the 5 to 9 year-old in the other provinces, it accounted for only 3 percent in Balochistan. The principle challenge for the province is to preserve and further enhance the quality of education, while at the same time making sure that all children complete primary school. The strategy involves multiple responses, such as constructing public schools, expanding private schools, improving school infrastructure and teacher qualifications, encouraging enrolment of girls, and boosting school accountability to parents and children. Similar issues are relevant for post-primary education.

3.4 The third chapter looks at the health of Balochistan's population, especially of children and mothers. While data weaknesses make an accurate assessment difficult, there is no doubt that health and population outcomes are poor and improved at best slightly since the 1990s. For example, the 2003/04 infant and under-five mortality rates were 158 and 104 per 1,000 live births, far above the levels of the early 1990s. They also lag behind Pakistan's, which in turn is among the worst performers in South Asia. While Balochistan's health outcomes are unsatisfactory, increases in the coverage of essential health services from 2001/02 to 2004/05 suggest that improvements might be in the making. In particular, the full immunization

rate of children aged 12 to 23 months increased from 24 percent in 2001/02 to 62 percent in 2004/05, and the share of pregnant women receiving pre-natal consultations increased from 21 percent to 35 percent. Higher funding supported this performance. Federal expenditure in the province in 2005/06 was twice as high as in 2001/02, and remained adequately focused on the programmatic interventions. However, the other provinces have seen similar improvements, and Balochistan's health outcomes and service coverage still lack behind the rest of country, let alone the targets of the Millennium Development Goals. Sustained improvements in health outcomes will require addressing a long list of structural weaknesses, including the low utilization of public health services, the lack of resources, the low coverage of essential services in remote areas, the lack of skilled women, weak governance, and incomplete devolution. Indeed, Balochistan needs to undertake bold reforms to improve service provision in remote areas; strengthen professionalism, management and accountability; and vitalize the private health sector.

3.5 Water supply and sanitation play a crucial role in family and environmental health. Balochistan's access to improved drinking water sources and sanitation has improved since the late 1990s. The share of households with drinking water from pipes and pumps rose from 33 percent in 1998/99 to 48 percent in 2004/05, and with flush toilets increased from 10 percent in 1998/99 to 23 percent in 2004/05. The modest advances have not come cheaply. For the last six years, Balochistan outspent the other provinces on water supply and sanitation, as might be expected in view of the higher cost of service delivery due to remoteness and arid terrain. Whatever the progress, Balochistan lags far behind the other provinces in the access to and quality of improved water sources, and there are large gap in coverage between urban and rural areas, and non-poor and poor households. The lack of quality water and sanitation services is perhaps not surprising in view of Balochistan's vast landmass and scarce resources. However, these problems are compounded by the poor management of these scarce resources due to weak accountability between citizens, policy-makers, and service delivery staff. The provincial government needs to establish clear institutional arrangements for water supply and sanitation services, and could consider piloting alternative service delivery models and innovative community-based systems for water and sanitation services.

3.6 Social assistance programs make some contribution in helping households in Balochistan to deal with poverty, but their impact is diminished due to low coverage, poor targeting and poor implementation. For example, only some 8 percent of households benefited from Zakat or Bait-ul Mal according to a 2004/05 World Bank Social Safety Net Survey Effective. Social assistance programs, which complement other pro-poor policies such as health, education, micro finance, and rural infrastructure, can help making growth more sustainable and more equitable. Priority reforms include improving program coverage and outreach, developing targeting systems, and development of effective monitoring and evaluation systems.

Table 3.1: Instruments for Delivering Services

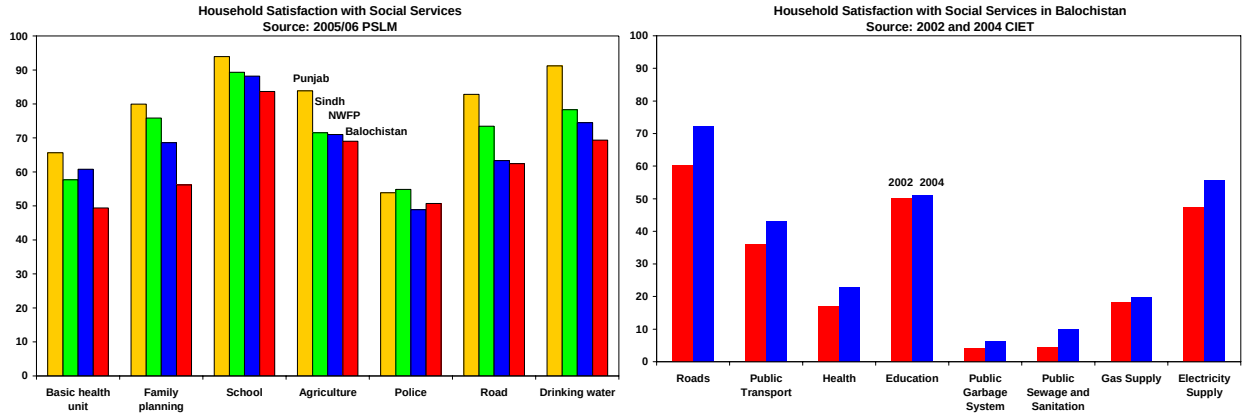
	Investment	Innovation	Integration	Institutions
Effective and Accountable State	Enhance capacity of key line departments through policy cells	Disseminate service utilization, quality, and satisfaction indicators to service users; Vest post and transfer authority to high-ranking committee as pilot basis in education department	Provide monetary and career incentives to serve in remote districts	Improve human resource management through HRMIS; Institutionalize merit based recruitment; Devolve APT powers for grades 1 to 15/16; Install deputation system for grade 17 or higher
Education	Provide missing facilities to existing schools; Open new schools according to transparent criteria	Provide strong legal framework, competitive selection of implementation partners, and well-specified performance indicators for Balochistan Education Foundation; Pilot monthly stipends for girls enrolled in primary or middle schools, in line with Punjab model	Increase girls' access to education; Provide financial incentives and secure housing for female teacher recruitment from outside the communities	Improve human resource management through BEMIS; Make teacher appointments school-specific; Institute monitoring system of teacher performance; Upscale teacher training
Health	Define basic benefit package available across all health centers	Pilot innovative modes of service delivery in remote districts; Build public-private partnerships for health care delivery	Expand President's health initiative to underperforming districts	Strengthen merit-based recruitment along the lines of the NWFP model; Increase decision making powers of district managers
Water and Sanitation		Pilot community-based service delivery models		Establish clear institutional arrangements for delivery of water supply and sanitation; Set up management information system
Social Assistance		Evaluate, and scale-up in case of success, Bait-ul Mal's cash transfer pilot for children attending school		Improve administrative efficiency through setting up of management information system and better targeting

3.2 TOWARDS AN EFFECTIVE AND ACCOUNTABLE STATE

The Challenge of Service Delivery

3.7 Balochistan's households are dissatisfied with the delivery of basic services. The 2005/06 PSLM solicited feedback of households on the performance of public services, such as health, education, and police. Out of the seven indicators covered, Balochistan scores worst in six, and is second-worst in the seventh (Figure 3.1, left panel). Similarly, according to the 2004 Community Information and Epidemiological Technologies Survey, only 51 percent were satisfied with education services, 30 percent with roads, 23 percent with health services, and 10 percent with sewage and sanitation. Again, Balochistan scored generally lower than the other provinces. Yet, governance reforms, including civil service, devolution, and political reforms, can bring about the much needed structural changes in public services. Indeed, the CIET shows that the satisfaction with services already increased from 2002 to 2004 (Figure 3.1, right panel), a period of administrative reforms.

Figure 3.1: Balochistan scores lowest on satisfaction with public services, but the indicators improved from 2002 to 2004



Sources: PSLM 2004/05, and CIET 2002 and 2004

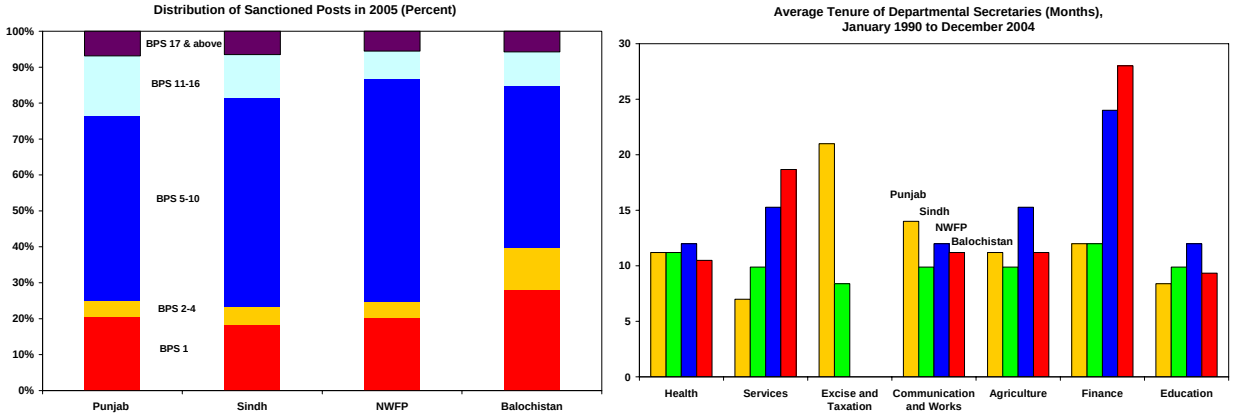
3.8 This chapter analyzes how Balochistan's public administration can deliver better services. It looks at the size and structure of the bureaucracy, the extent of merit-based recruitment, the quality of career management, and the degree of administrative devolution. It also examines the implications of political fragmentation and tribal identity on the quality of public administration and service delivery. The chapter argues that the Government of Balochistan can take some practical steps in the short and medium term to make the state an effective and accountable service provider. They involve improving the effectiveness of the bureaucracy by putting in place institutional mechanisms to ensure merit-based recruitment and good management of staff; devolving more administrative authority to local governments to improve the accountability of service providers; and using the power of information to increase the incentives of policy-makers for better public goods provision.

Large Bureaucracy

3.9 Balochistan has an outsized and poorly skilled bureaucracy. The 161,000 sanctioned posts in 2005 translate into the largest provincial bureaucracy in per capita terms. There were 2.1 posts per 100 people in Balochistan compared to 1.1 in Punjab, 1.2 in NWFP and 1.3 in Sindh. Local governments account for close to three-fifth of the jobs. Balochistan also stands out for the high share of low grade posts. Some 28

percent were grade as basic pay scale 1, and almost two-fifth as basic pay scale 1 to 4 (Figure 3.2, left panel). There is also considerable inter-district variation – the number of sanctioned district staff varies from a high of 5 per 100 people in Ziarat to a low of 0.7 in Killa Abdullah.

Figure 3.2: Balochistan's bureaucracy is biased towards low grades, and secretaries transfer frequently



Source: Provincial Services Departments

3.10 The large size and bottom-heavy structure reflect the province's remoteness and low population density, which imply that the human resource cost of delivering services are high. They also point to a feeble private sector that offers only few jobs. More than three-fourth of the regularly salaried jobs in Balochistan are offered by government, compared to only two-fourth in the rest of the country. Nevertheless, even within these parameters, the provincial and local administration have the responsibility in delivering cost-effective services, which in turn requires an appropriate skill mix, merit-based recruitment and effective personnel management. The 1998-2001 third party validation exercise of the Auditor General of Pakistan on the Social Action Program provides useful insights on these issues. They examined the extent of departmental compliance with existing procedures and criteria for recruitment, covering education, health, population welfare, and rural water supply and sanitation. The results revealed that problems were worst in Balochistan. Only 48 percent of the examined cases followed proper procedures for recruitment in Balochistan, as compared to 73 percent for the rest of Pakistan.

3.11 Another issue involves the adequate compensation is also essential for attracting and retaining high-caliber individuals. Lower grade staff, such as primary teachers, is relatively overpaid compared to the private sector, while senior grades, particularly junior officers (basic pay scale 17 to 18) who get fewer in-kind benefits such as housing, are relatively underpaid. However, the federal government determines the compensation structure for the entire civil service, so the provincial government has little leeway in addressing this issue.

3.12 Endemic staff transfer is another major factor behind Balochistan's poor bureaucratic quality. While the provincial government's Rules of Business explicitly require staff to remain in a particular post for 3 years, the actual average tenure is much lower. Balochistan has among the lowest tenure of the four provinces, with secretaries in some of the key departments averaging only about ten months (Figure 3.2, right panel). The rapid turnover of staff is an indicator of the politicization of the bureaucracy. For all provinces, the tenure duration was shortest in departments such as education and communication and works. These sectors have arguably the greatest potential for patronage through either employment or the implementation of development schemes. Devolution has worsened to the problem of staff transfers, particularly in districts that are politically in opposition to the provincial government. For example, the average tenure of executive district officers of health was in the range of 8 to 10 months in Pishin, Quetta,

and Killa Abdullah post-devolution. Anecdotal evidence suggests that transfers at junior levels are also endemic, particularly of primary teachers.

3.13 The recent strengthening of the Balochistan Public Service Commission (BPSC) is an important step in providing institutional checks against patronage-based appointments. The BPSC Amendment Act of 2004 gives the governor of Balochistan the authority to determine the composition of the commission and the appointment of the chairman and members, and also fixes the tenure of the chairman and members to five years. In 2005, the administrative control over the BPSC was transferred from the Services and General Administration department to the governor's secretariat, a reform that is unique to Balochistan amongst all the provinces. A new board of governors, under the chairmanship of the governor, has been created and is responsible for determining the administrative and financial rules of the commission. The board introduced a number of measures to increase administrative and financial autonomy, including the powers for the creation of temporary posts, the abolition of posts, and some authority over the re-appropriation of funds. The recruitment purview of the BPSC is however limited to basic pay scale 16 and above. Going forward, the government needs to consider increasing the purview of the commission as well as putting in place checks against patronage in departmental and district recruitment.

Incomplete Administrative Devolution

3.14 Bringing government closer to the people increases the accountability of elected policy-makers to the public and creates incentives for these policy-makers to act on the public's demands for improved service delivery. This is the theory behind devolution. And indeed, locally elected representatives in Pakistan are now much more accessible to voters, and the political participation of previously underrepresented groups, such as women, has increased significantly. However, local government elections in Balochistan have been less competitive than in other provinces, suggesting significant elite capture and limited gains in local accountability.

3.15 The votes of citizen can only be effective in improving public facilities if local policy-makers have the ability to hold service delivery staff accountable. The experience of devolution in Balochistan and the other provinces suggests that they exert only limited local control over staff, as the province maintains the authority for the appointment, promotion, and transfer (APT) of district personnel. Balochistan is the only province that has not yet formally notified APT rules for local governments (Table 3.2). For example, in contrast with the rest of the country, Balochistan requires formal provincial approval for all appointments in the lower grades of the devolved departments. Similarly, the transfer authority of staff for basic pay scale 1 to 17 rests with the province. While the formal notification of these rules has not yet translated into effective local control in the other provinces, the lack of formal district authority has further aggravated the problem in Balochistan. Another important step in endowing local governments with control over their staff is the phased creation of a district and tehsil service. Recent amendments to the Local Government Ordinance call for the creation of a district service by the end of calendar year 2005. However, no province has implemented this reform to date.

3.16 The problem of limited local accountability is compounded by the limited capacity of local governments. As discussed earlier, the distribution of sanctioned posts across districts is asymmetric and results in a lack of posts in key areas in spite of large size of the overall bureaucracy. In addition many of these sanctioned posts are vacant, particularly at the tehsil municipal administration level. For example, an assessment of 14 TMAs conducted in 2005 found that 50 percent of tehsil officer finance, 79 percent of the tehsil officer regulation, 71 percent of tehsil officer infrastructure, and 21 percent of tehsil officer planning positions were vacant.

Table 3.2: District Appointing Authorities

	NWFP	Punjab	Sindh	Balochistan
Deputy District Officer	None	None	Grades 1-2	None
District Officer	None	None	Grades 3-5	None
Executive District Officer	Grades 1-10	Grades 1-10	Grades 6-8	None
District Chief Officer	Grades 11-15	Grades 11-15	Grades 9-11	None
Nazim	None	None	Grades 12-15	None

Source : District Government Rules of Business.

Tribe, Ethnicity, and Political Fragmentation

3.17 These problems of recruitment, career management, and administrative devolution are reflective of a political environment that favors patronage at the expense of service delivery. Political fragmentation is a strong feature of Balochistan's political landscape, a key explanatory factor behind the poor quality of public administration, and a formidable barrier to generating broad coalitions for development and reform. The roots of this fragmentation lie in the social structures in the province, which are characterized by strong tribal identities, and which tend to promote factionalism at the political level. While ideological movements, based on ethnicity and religion, have eroded some of the more extreme factional tendencies of tribal social organization, tribal bonds remain pervasive, supported by kinship and lineage, as well as joint ownership and management of common property resources, and mechanisms for dispute resolution.

3.18 Tribes and tribal networks dominate social organization among the main ethnic groups of Balochistan – Baloch, Brahui and Pashtun (Box 3.1). The only significant exception is the southwestern Baloch coastal region of Mekran where racial origin competes with tribal affiliation as a marker of identity. The "tribe" can be regarded as a broadly kinship-based group with a shared history, exclusive customs and myths, and coherent internal systems of leadership and collective action. The corporate identity of Balochistan's tribes is well-defined, exclusive and complete. There is little ambiguity about the tribal identity of a person, and a person can be easily "placed" – in a social sense – with reference to his or her tribal and kinship coordinates. The membership of a tribe is connected with ethnic identity at the top, and works its way all the way down to smaller kinship groups of extended families. The bonds of affiliation are maintained even across long distances. The tribal system has active functions and roles in the management of collective action. There are unambiguous structures of leadership, and established informal norms concerning the conduct of leadership, dispute resolution, management of common property resources, and leadership transition.

Box 3.1: Tribal organization in Balochistan

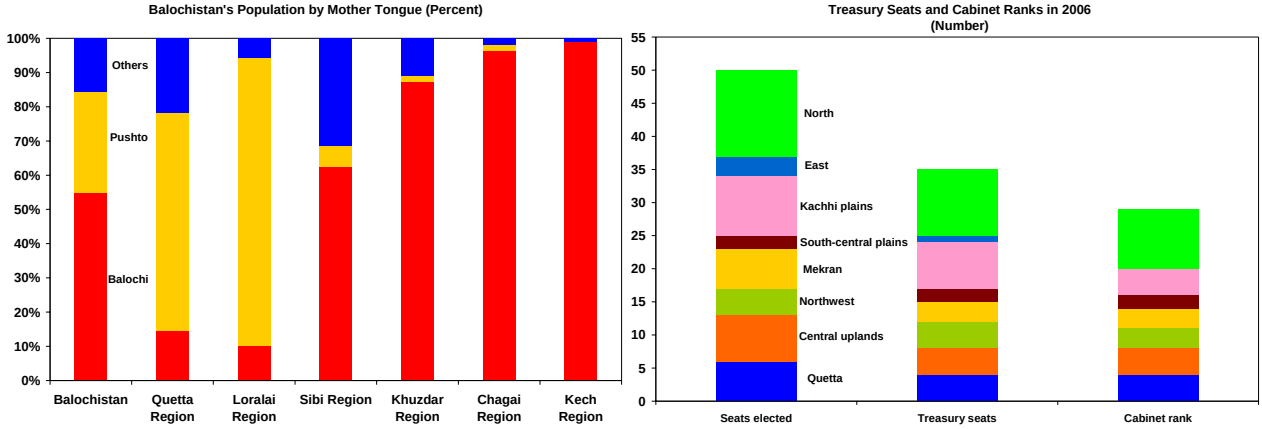
Baloch, Brahvis and Pashtun tribal structures share some common features. Lineage and kinship are important binding factors. With tribes and sub-tribes affiliated with one another on the basis of lineage and kinship, solidarity and conflict are often passed down from one generation to the next along these lines. Tribal affiliation transcends territory, and is invoked and reciprocated across long distances. There are established norms and unwritten codes of conduct with respect to common resources, modes of negotiation, and dispute resolution. Tribal affiliation has remained stable and robust despite many specific changes in the content of tribal relationship in both societies. Brahui and Balochi are distinct languages, yet in terms of culture, social organization and history, the native speakers of these two languages see themselves as part of a wider Baloch society and tradition.

Beyond these similarities, there is also an important difference. Social hierarchy is more likely to be intra-tribe among Baloch and Brahvis and inter-tribe among Pashtuns. Baloch and Brahvi tribes are inclusive of lineage outsiders. This boosts the number of affiliates, regardless of blood ties, and furthers mutual economic and political advantage. Instead of a sharp dividing line between insiders and outsiders, the Baloch and Brahvi tribes facilitate different degrees of association within a broad hierarchy. Sardars, the tribal leaders, exert great influence both among their own tribes and on provincial politics as a whole. By contrast, Pashtun tribes operate a form of "exclusive equality" within the group, with strong exclusion of lineage outsiders from common tribal resources or protection. The Pashtun tribe is based on rigorous common ancestry, egalitarian treatment of members, and weak authority of *maliks*, their tribal leaders.

The Baloch-dominated region of Makran is an exception to Baloch-Pashtun tribal social organization. Tribal affiliation is not regarded as of the essence of being Baloch, and tribal chiefs play a minor role in the social hierarchy. Makran has a social hierarchy of its own, which relates to the social, cultural, and economic position of people of African descent. Even though there appears to be wide acceptance that the provincial identity dominates tribal, kinship, and racial origins, there is a history of discrimination against people of African origin.

3.19 The Baloch, Brahui and Pashtun ethnic groups might be regarded as "super-tribes" made of tribes, sub-tribes and kinship groups. Ethnicity, therefore, is not some autonomous cultural marker of identity, but part and parcel of a comprehensive system in which individuals and families find themselves. The close connection with kinship and tribal structures implies that ethnic identities are robust and resilient. Mother tongue is a simplified indicator for the complex social divisions of ethnicity. According the 1998 Population Census, the largest ethnic group in Balochistan were Balochi-speakers, consisting of 55 percent of the population (Figure 3.3, left panel). The Population Census subsumes Brahui-speakers into this group. The next largest group is Pashto-speakers making up 30 percent. Others included Sindhis (6 percent), Punjabis (3 percent) and Seraikis (2 percent). The ethnic groups in Balochistan are mostly regionally segregated. Pashto-speakers inhabit the districts of the northern and northeastern part of the province, bordering Afghanistan and FATA, Brahui-speakers occupy a north-south corridor along the centre of the province, while the Balochi-speakers are divided between the west and southwest and the east. There are large concentrations of Sindhi-speaking people in the southeast (Lasbela) and the Kachchi plains area. The provincial capital of Quetta is "shared" between the two main ethnic groups, though there is a sense that the city has its distinctive Pashtun and Baloch-Brahui clusters. Quetta has a large minority of Punjabi-speakers (16 percent), who along with the Urdu-speakers (6 percent) are often collectively referred to as "settlers". Another important group in Quetta are the Persian-speaking Hazaras who migrated from central Afghanistan in the 19th century.

Figure 3.3: Balochistan's ethnic groups are regionally segregated and demand political representation



Sources: 1998 Population Census, and the World Bank

3.20 Balochistan, of course, is not unique in Pakistan for its ethnic or linguistic diversity. There are sizeable linguistic minorities in all four provinces – Seraikis in Punjab, Urdu-speakers in Sindh, and Chitrali, Seraiki and Hindku-speakers in NWFP. Ethnic identity can assume a more important political dimension in Balochistan compared to Punjab and NWFP. The linguistic or ethnic minorities are relatively large in size – so much so that the "main" ethnic group might not constitute a majority. In addition, there is a perception among many representatives of the "main" ethnic group that they are at a political disadvantage vis-a-vis the minority ethnic groups. The predominance of tribal social organization impacts on development outcomes in two ways. First, kinship groups, sub-tribes and tribes constitute vertically aligned social networks that act as important domains of political mobilization and action. The presumed division between the social, economic and political domains that supports the development of institutions such as anonymous markets, civil society and political representation, therefore, cannot be expected to work in the same way in tribal societies. Tribal leaders are quite often political leaders as well as channels for accessing economic resources. Second, tribal social organization tends to favor vertically-aligned cooperative behavior, often at the expense of consensus building, or even horizontal class-based mobilization. Conflicts between tribes and kinship groups and cooperation within these groups can make it costly to obtain agreement on issues that affect people across kinship and tribal lines.

3.21 In principle, the ethnic identity can be expected to magnify the effects of tribal social organization on development outcomes. The absence of a separation between economic, social and political domains, and the preeminence of vertical alignments might be replicated and reinforced up to the provincial level of decision-making and beyond. Specifically, three factors are important in Balochistan. First, "political consensus" – or agreement of all major political interest groups on leadership, policy, or course of action – is a rare commodity in any political system. Tribe or ethnicity-based political fragmentation in Balochistan might undermine the achievement of political consensus. The tribal structures will tend to hinder the emergence of active constituencies for higher pay-offs across factions, or non-zero sum games. Political fragmentation along tribal structures is likely to produce strong leaders at the level of the tribe or kinship group, but weak leadership at the cross-tribal or provincial level. Weak political will for public interest is linked to the difficulty in constructing horizontal political coalitions of the elite and the non-elite segments alike. The governance of public goods and services can be distorted due to political fragmentation, if existing factions use public sector jobs or contracts as pay-offs to faction members. The intended benefits such as health care or schooling, in these cases, are non-excludable public goods, and therefore not seen as tangible pay-offs to faction members. Equally, it might lead to the blocking of a development intervention because a powerful faction or fragment opposes it.

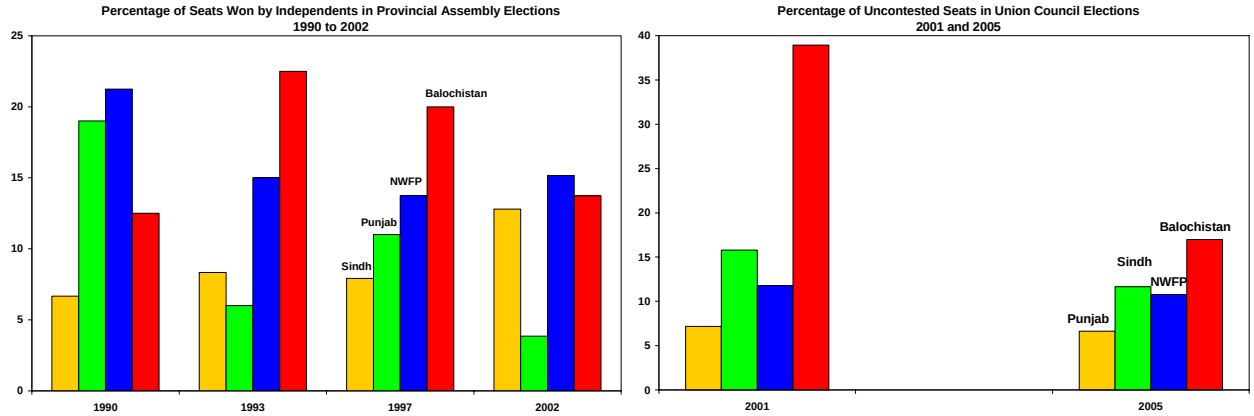
3.22 Second, the identification of specific sub-regions with particular ethnic groups implies that many resource allocation decisions need to pay attention to "evenhandedness" between regions (or ethnic groups) regardless of the technical merits of the case. Other criteria such as poverty rankings, or development need are often accorded secondary weightage after taking into consideration the representation of different ethnic regions – particularly the Baloch-Brahui and the Pashtun.

3.23 Third, one recurrent feature of provincial governments in Balochistan is their reliance on multiple factions and the need to accommodate all factional leaders, thus compromising on the compactness of government. Ethnicity plays a role in the placement of personnel in the provincial government's administrative organization. There are implicit balances that need to be maintained in public sector employment at the provincial level, due to the great symbolic value attached to ethnic and tribal affiliation. The presence of a large number of officials from other provinces is seen, at once, as both necessary and disruptive. These officials bring much-needed technical skills. At the same time, however, they are not always viewed as neutral third parties autonomous to the intra-provincial ethnic balances. They are at times regarded as being aligned to one ethnic group or other, or even to extra-provincial economic interests within the province.

3.24 One empirical indicator of the impact of tribal networks on political fragmentation is cabinet size, to the extent that it captures the patronage by a ruling coalition to factional leaders through ministerial position in return for political support. The right panel of Figure 3.3 provides a region-wise breakdown of Treasury seats and cabinet rank positions for the present Balochistan provincial assembly. Out of 50 directly elected members – one seat remained vacant and another 14 were indirectly elected for reserved seats – 35 were on the Treasury benches, and of which 29 found representation in the Cabinet or held ministerial positions. This virtual correspondence between Treasury benchers and cabinet rankers suggests a high degree of political fragmentation.

3.25 The degree of competition in provincial and local elections in Balochistan is another useful indicator for political fragmentation. Hierarchical tribal systems would imply that votes are cast for individuals rather than for political parties, thereby suggesting that a large proportion of the victorious candidates would be independents. Under this type of social structure, one would also expect local elections to be less competitive than provincial elections. The left panel of Figure 3.4 shows the proportion of seats won by independent candidates in the last four provincial assembly elections. Balochistan stands out as having the highest percentage of independents in the 1993 (22 percent) and 1997 (20 percent) elections, but not in the 1988 or 2002 elections. The right panel shows the percentage of uncontested seats in union council elections. In 2001, almost 40 percent of union council seats were uncontested in Balochistan, suggesting a high degree of elite control at the local level. In 2005, this proportion declined to 17 percent, only somewhat higher than that of the other provinces (Figure 3.4, right panel).

Figure 3.4: The degree of competition in provincial and local elections has increased from low levels



Source: World Bank

3.26 The conclusion that emerges from this analysis is that the degree of electoral competition in Balochistan is lower than in the other provinces, but has increased over the last years. In reality, there is a blend of traditional leadership and ideological affiliation – in fact much of electoral politics is competitive precisely because it is a mixture of rival patron-client political factions interacting with ideological positions. The low degree of competition at the local level does however have implications for the extent of accountability of policy-makers to citizens, and political fragmentation emerges as a key factor behind poor governance. Public service delivery is weakened in a factionalized polity as it leads to patronage-based recruitment, encourages factionalism within the bureaucracy, and reduces the incentives to provide public goods that cut across factions.

Social Mobilization

3.27 In view of Balochistan's social and tribal structures, social mobilization can play a crucial role in boosting local accountability of service delivery. It recognizes the need to reach each poor household with the help of community-based institution that create agency and voice for poor people. The development of linkages from communities to government is at the core of the work of the Pakistan Poverty Alleviation Fund (PPAF). PPAF'S Partner Organizations have become active partners with district governments, in many cases leveraging public funds for implementing development projects and in establishing Citizen's Community Boards (CCBs).

3.28 Investment in social mobilization can be highly cost-effective and if done well can target the poor and very poor, include women, the socially excluded, and support them to become organized to meet their development needs and reduce their poverty through income earning and employment opportunities. Mobilized communities can be linked to public and private sector service providers, and local governments. The PPAF community-driven development model involves social mobilization of communities to form well-managed people's organizations capable of collective action (e.g., capital formation through community savings; construction and management of community infrastructure schemes, or drought mitigation (Box 3.2) and the provision of skill training and microfinance loans and enterprise and other skill training. Social mobilization has a proven and tested approach, which independent evaluations show can significantly reduce income poverty and give high financial rates of return. A 2002 evaluation of the Aga Khan Rural Support Program in northern Pakistan by the World Bank OED for example concluded that the program had doubled the incomes of participating households over the previous decade. In addition, these community organizations were found to have enhanced access of communities to local government and other health and education services.

Box 3.2: Social mobilization and drought mitigation

In response to Pakistan's severe drought from 1998 to 2002, PPAF launched a nation-wide, drought mitigation and preparedness program, focusing on the less endowed and poverty stricken regions of the country. The first of these pilot projects had been identified to be implemented in a drought hit union council - Rodh Malazai, in district Pishin of Balochistan. Living in 52 rural settlements, around 15,000 inhabitants of Rodh Malazai are primarily dependent upon horticulture and livestock for their survival. The drought damaged around 70 percent of the orchards. The quantity of water available for irrigation reduced by 90 percent, resulting in complete or partial depletion of *karezes,* (traditionally built, underground water shafts*),* and the number of livestock reduced by 28 percent.

The project was implemented through one of the PPAF's most mature partner organizations, Taraqee Foundation. In order to formulate a set of cost-effective, environmentally sustainable and need-based interventions, PPAF commissioned NESPAK, the largest and most renowned Pakistani consulting organization, to prepare an integrated Drought Mitigation and Preparedness Plan (DMPP) for Rodh Malazai. NESPAK employed remote sensing based GIS techniques and extensive field investigations aimed at assessing the natural resource situation of the area, and matching it with the projected demand through the development of water balance models. The Plan consisted of environmentally sustainable sub-projects in surface water retention, groundwater recharging and extraction. It also included a public awareness and education component, aimed at ensuring natural resources conservation, improving rangeland and on-farm management and diffusing innovations with a view to improving internal environment and conserving forests. The total cost of the subprojects is Rs35million. Out of this amount, Rs28 million is PPAF share whereas local community contributed Rs7 million.

This resulted in conflict resolution, community driven development, reduction in vulnerability and gender participation. Social mobilization focused on awareness raising, community organization, institutional development and technology dissemination. The village/community level organizations federated themselves into a Union Council level, 'Task Force.' Constituted to act as a focal body, mandated to sub project identification, conflict resolution and interaction with other agencies, the Task Force proved to be a successful model of community participation in a relatively larger area. Recently, the Task Force has been able to register itself with the District Government, as a CCB, (Citizen Community Board), which allows it to access local government funds.

With the construction of delay action dams, the ground water has been re-charged. This resulted in reviving the years old depleted *Karezes* and dried up open wells. Due to increase in irrigation water, the migrated people reverted to back to homes and started re-cultivating their fields thus increasing per-capita income of the people. Due to formation of cohesive groups, people have started thinking of improving their lives themselves and have developed a mechanism aimed at addressing their needs like education and health.

Social mobilization and institutional development at community and local levels is the key to success. Moreover, state of the art technology should be blended with the conventional wisdom. Deliberate efforts need to be made for adopting holistic approach in designing such projects. And finally, in-house capacity needs to be developed at the apex level for rapid and un-interrupted technical assistance.

Way Forward

3.29 The analysis above suggests that sustainable improvements in governance and service delivery in Balochistan are conditional on changing the political incentives of elected policy makers. The underlying political tradeoffs between patronage and provision of public goods in Balochistan will need to change, and this in turn will require strong political leadership, consensus building, as well as measures to improve citizen voice. These political reforms are however, likely to be only feasible over the medium term, and will therefore need to be complemented by short-term measures to reduce the ability of politicians to engage in patronage, particularly with regards to personnel management. Specifically, some institutional 'firewalls'

will need to be built, and the existing ones strengthened, so as to insulate the bureaucracy from these political pressures.

Improving Human Resource Management

3.30 Given that the constraints of geography imply that Balochistan will continue to need to have a relatively large bureaucracy, with a concomitantly higher wage bill, it is essential that the government invests some resources in human resource management to improve the efficiency of its civil service. A Human Resource Management System (HRMIS) is a relatively cheap tool that can be used for more detailed analysis to inform policy. The Government of NWFP, for example, has installed an HRMIS system for provincial and district employees, covering around 285,000 employees (including sectors such as police, health, and education) and 75,000 retirees. Such a database would allow the government to, for example, rationalize the postings of provincial staff across districts, taking into account development levels of districts; identify ghost employees; and determine the degree to which critical service delivery positions like primary teachers can be filled by re-allocation (such as from schools with low student-teacher ratios to schools with high student-teacher ratios) as opposed to new recruitment.

Institutionalizing Merit-based Recruitment

3.31 The recent reforms indicate that the government recognizes that an autonomous service commission is a key institutional mechanism for protecting the recruitment process from the political pressures that are currently inevitable in Balochistan. More can be done to further expand the purview of the BPSC. Recruitment of basic pay scale 11 to 15, which was once with the commission, should again be given to it, and the organization should, over the medium term, also be given a role in the recruitment of additional key service delivery personnel, such as primary school teachers and assistant sub-inspectors of police, where pressures for patronage are particularly high. Equally important is the need to build in transparency in departmental recruitment. One major problem has been that interviews have largely become a means of selecting candidates on purely political grounds. The contract (school-specific) primary teacher recruitment policy of Punjab is a good example of an attempt to reduce the element of discretion by giving greater weight to tests (conducted by reputable organizations) and to educational qualifications, and less to interviews. Given the scale of the problem in Balochistan, the Education Department could introduce a recruitment policy in which candidate selection is based on a formula consisting of test scores, academic qualification, and domicile (with highest points awarded to local candidates), and with no interviews. The role of the district recruitment committee would be to apply the above formula and to rank the candidates based on points secured, and to display the results.

Reducing Staff Transfers

3.32 The frequent transfers of staff are a significant constraint to bureaucratic effectiveness. Given that political pressures to transfer staff are unlikely to change over the short to medium term, and that the artificial imposition of bans on transfers has not worked, some institutional mechanisms for tackling this problem are required. One option is to move posting and transfer authority of senior staff out of the purview of the concerned minister and vest it in a committee comprising of senior bureaucrats – both from the concerned department and other departments, and chaired by the Chief Secretary – so as to try to depoliticize the process. This mechanism could be initially piloted in the Education Department with the transfer authority over executive district officers of education and health vested with the committee.

Advancing Administrative Devolution

3.33 In the short term the government should consider greater decentralization of APT powers, by for example giving district officers authority over grades 1 to 5, executive district officers over grades 6 to 11,

and district chief officers over grades 12 to 15/16. Over the medium term, there needs to be a move towards the creation of a local government service. For staff in basic pay scale 1 to 16, a transition from the province as employer to the district as employer will not be disruptive as de facto their careers are currently limited to the districts in which they serve. The district will assume responsibility for pay and pensions, and inter-district transfers, which presently are rare and can take place only under special circumstances, would require resignation from one district and re-employment by another. Indeed the Local Government Department has already drafted the broad contours of such a service, and these could be formalized in a relatively short period of time.

3.34 More critical is the need to build local accountabilities for senior staff in basic pay scale 17 and above given that, over the medium term, these will remain provincial employees. Clearly a system of deputation that gives the district and tehsil nazims some control over the postings of district chief officers and executive district officers will be needed. For example, such a mechanism could entail senior staff formally applying to serve in a particular district on fixed-term contracts while retaining their employment with the province. Some monetary incentives for serving in more remote districts would also be needed.

Empowering Communities

3.35 Incentives for patronage are the underlying political reasons for many of the governance problems in Balochistan. Sustainable improvements in service delivery will therefore, require a change in these incentives, which in turn will be dependant on increasing the accountability of policy-makers to citizens. Social mobilization can play a important part in this process. In addition, international experience shows that policies that increase the information available to citizens, particularly specific information regarding particular government actions, can have a significant impact on increasing citizen pressures for improving services (World Bank 2003). For example, use of Citizen Report Cards and Public Expenditure Tracking Surveys, and publicizing these results, have had some successes in countries such as India, Uganda, Philippines, and Ukraine in building the public awareness that was necessary for building greater political commitment to improve services. There are a number of data sources that the Government of Balochistan can use to increase public awareness of the quality of service delivery. The CIET Social Audit survey, conducted in 2001/02 and 2004/05, measures citizen satisfaction (representative at the district level) with a number of services, such as education, health, water supply, and police. These can be used in the same manner as Citizen Report Cards have been utilized in other countries. Unfortunately, to date the survey data has not been made publicly available by the National Reconstruction Bureau, which in many ways defeats the purpose of the exercise. Similarly, the Pakistan Social and Living Standards Measurement Survey (PSLM) survey provides a host of intermediate and outcome social indicators (representative at the district level) that can form the basis of a public information campaign.

Focused Capacity-Building

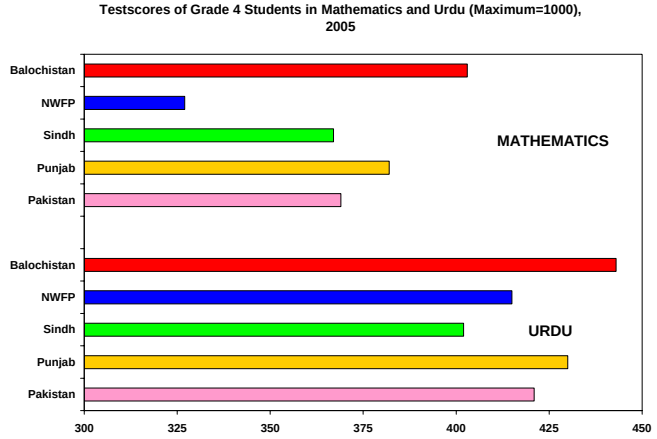
3.36 Enhancing the overall capacity of the provincial administration is a long and complex process involving improvements in pay, merit based recruitment, and improved accountability. In the short term, the government should focus on enhancing the planning capacity of key line departments, such as Minerals, Irrigation, Agriculture and Livestock, and Fisheries, through the creation of small policy cells. These cells would need to pay market-based salaries (such as the MP scales of the federal government) to attract high quality technical staff.

3.3 GAINING AN EDUCATIONAL FUTURE

The Testscore Puzzle

3.37 Balochistan is not a province renowned for its excellence in education. Indeed, the same factors that have held back Balochistan's economic development – remoteness, lack of resources, weak governance – also hinder educational development. Yet, when the National Education Assessment System went out in 2005 to test students attending grade 4 in public schools across the country, they found that Balochistan's children did better than those of the other provinces (Figure 3.5). Balochistan's testscores exceeded the Pakistan average by 5 percent in mathematics and 9 percent in Urdu. Balochistan even outperformed Punjab, often viewed to be the leader in educational reform, by 3 percent in mathematics and 5 percent in Urdu. The ranking for Urdu is especially remarkable, as – in contrast to Punjabi – Balochi, Pashtu, and Bravi, the main mother tongues of Balochistan's children, have little in common with Urdu.

Figure 3.5: The testscore performance of Balochistan's public schools puts the other provinces to shame



Source: National Education Assessment System 2005

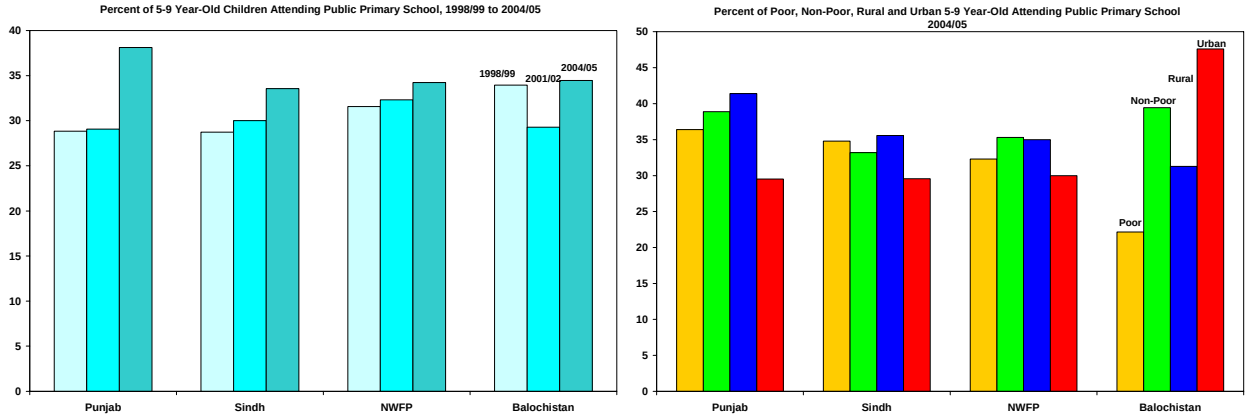
3.38 While Balochistan's public school system should rightly take pride in this ranking, this chapter argues that the good performance on quality is largely due to a bad performance on access. It reflects the low enrolment of students from disadvantaged backgrounds, as well as the small number of private schools. The principle challenge for the province is to preserve and further enhance the quality of education, while at the same time making sure that all children complete primary school. The strategy involves multiple responses, such as constructing public schools, expanding private schools, improving school infrastructure and teacher qualifications, encouraging enrolment of girls, and boosting school accountability to parents and children. Similar issues are relevant to post-primary education, but since improvements in middle and higher school and vocational training are contingent on getting children through primary school, the chapter will for the most part focus on the first five grades.

Public-Only, Inequitable Access

3.39 A good starting point to unravel Balochistan's education performance is to look at public primary schooling. Just over one-third (34 percent) of children aged 5 to 9, the official age bracket for primary school, were enrolled in grade 1 to 5 at public schools in 2004/05 (Figure 3.6). This is on par with Sindh and NWFP, and only 4 percent behind Punjab. In particular, the share increased 5 percent from 2001/02 to 2004/05, although it is unchanged from 1998/99 to 2004/05. The dip in 2001/02 could well be related to the

draught which might have forced families to take their children out of school as part of their coping strategy. The other provinces, where the impact of the draught was less, saw continuous increases. These numbers suggest that public primary schools in Balochistan do not do much worse than elsewhere in terms of access, especially considering the legacy of the draught.

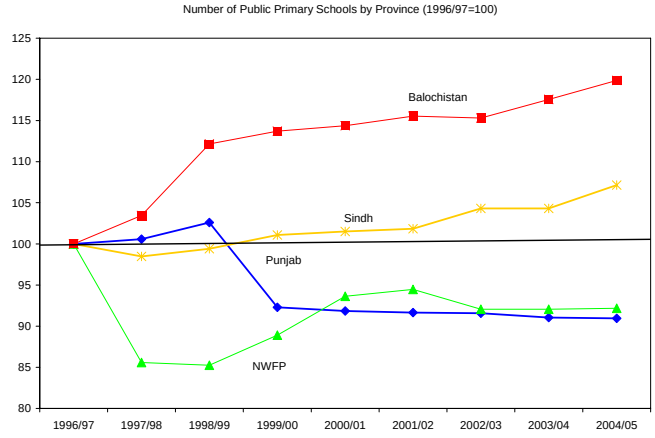
Figure 3.6: Primary public schools in Balochistan enroll a similar share of children as in the other provinces, but enroll a higher share of non-poor, urban children



Sources: PIHS and PSLM

3.40 This assessment is also borne out by the growth in public primary schools. Balochistan expanded the number by 20 percent from 1996/97 to 2004/05, roughly in line with the growth of the primary school age population (Figure 3.7). The number of public primary schools in the other provinces has expanded less (7 percent in Sindh) or even contracted (-8 percent in Punjab and -9 percent in NWFP).

Figure 3.7: The growth in public schools in Balochistan has kept up with population growth



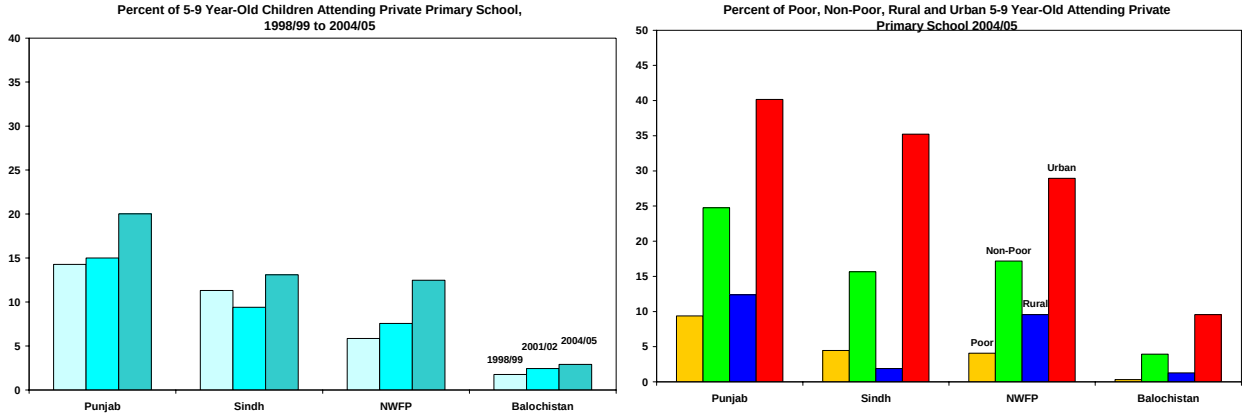
Source: World Bank

3.41 However, investigating more closely which children attend public primary school reveals striking differences between Balochistan and the other provinces. An important concern for public policy is to what extent schools reach children from disadvantaged backgrounds. Grouping children depending on whether they come from families whose consumption falls below or above the poverty line, we find that the shares of poor and non-poor children attending public schools in Punjab, Sindh and NWFP in 2004/05 were roughly similar. For example, 36 percent of children from poor families went to public schools in Punjab, compared to 39 percent of children from non-poor families. By contrast, public schools in Balochistan did much worse in reaching poor children. Some 39 percent of non-poor children went to public schools, compared to

only 22 percent of poor children. The contrast is even stronger for rural-urban differences. Enrolment rates for rural children in Punjab, Sindh and NWFP are from 5 percent to 11 percent *higher* than for urban children, while they are 17 percent *lower* in Balochistan. In other words, Balochistan's has a comparable enrolment rate for public primary schools with the other provinces only because it reaches a large number of non-poor, urban children. Or put more simply, Balochistan's primary public schools are average in terms of access, but poor in terms of equity.

3.42 But what makes the access to public primary schools in Balochistan less equitable than in other provinces? The answer is twofold: absence of the private sector and urban placement of schools (Figure 3.8). The private sector has flourished over the last years and enrolled from 12 percent to 20 percent of the 5 to 9 year-old in 2004/05 in the other provinces. Yet, it remained anaemic in Balochistan where it enrolled only 3 percent of the 5 to 9 year-old in 2004/05. Disaggregating enrolment by poverty and area, we find that private primary schools locate where parents are able and willing to pay for the education of their children and a pool of local teachers is available. Hence, they enrol mostly children from non-poor, urban backgrounds. This also implies that public primary schools are left with a larger concentration of poor, rural children – which in turn explains why enrolment in public primary schools in the rest of Pakistan tends to be equitable. In contrast, due to the absence of private schools in Balochistan, even well-to-do parents have to send their children to public schools, which tends to make public school enrolment in Balochistan inequitable.

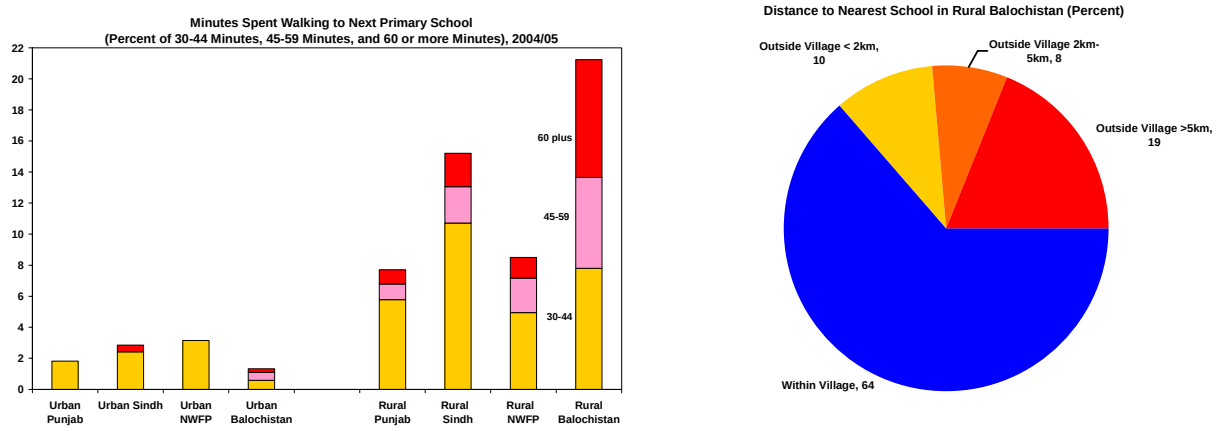
Figure 3.8: Balochistan's private primary schools are hard to find



Sources: PIHS and PSLM

3.43 This pattern is reinforced by the urban bias in the placement of (public) schools in Balochistan. According to the 2004/05 PSLM, only 2 percent of households in cities commuted more than 30 minutes to get to the nearest school, similar to the share in other provinces (Figure 3.9). By contrast, in villages, it was one in five households in Balochistan, compared to less than one in ten in Punjab or NWFP. And almost one in ten rural households in Balochistan commuted for more than one hour. The distance to the nearest school in rural Balochistan is even worse according to the 2003/04 MICS, where one in five households faced a commute of at least 5 kilometer. The absence of nearby public schools in Balochistan's remote areas reduces the enrolment of rural children from poor families.

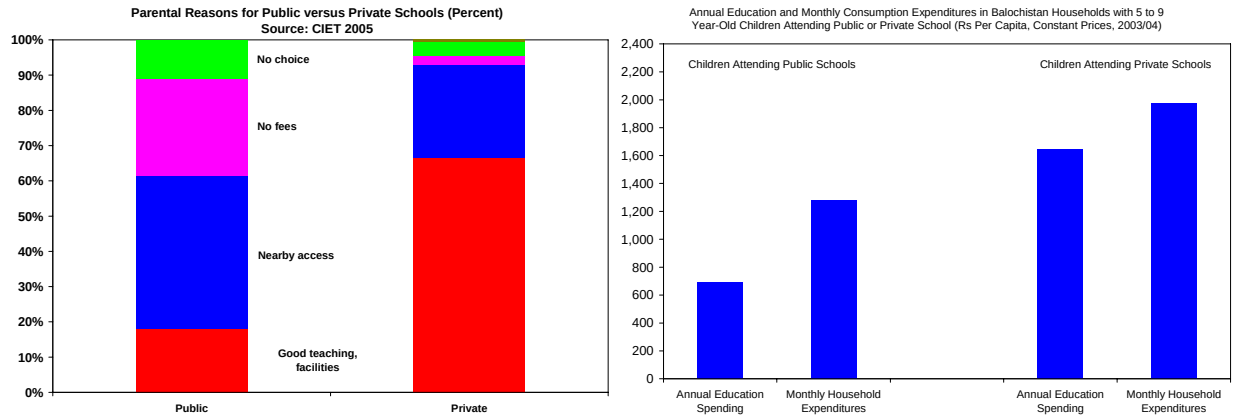
Figure 3.9: Rural Balochistan has worse school access than areas elsewhere



Sources: PSLM and MICS

3.44 Parents' reasons for choosing a public or private school confirm this analysis. The lack of school choice and schooling costs are the two principle reasons why parents send their children to public schools. In 2004/05, over one in two parents selected government schools for easy access and lack of alternative, and over one in four due to the low tuition and other costs. By contrast, two in three parents selected private schools for the teaching and facilities (Figure 3.10, left panel). Expenditure data from the 2003/04 MICS confirms that households whose children attend public primary schools spend less on education than households whose children attend private primary schools – even though many private schools hire predominantly local, female and moderately well educated teachers to keep school fees low (Andrabi, Das and Khwaja 2006). Education expenditures, including fees, uniforms, transport, in public schools were in 2003/04 only about 40 percent of the level in private schools; at the same time, household expenditures of families with public school children were only 65 percent of families with private school children Figure 3.10, right panel).

Figure 3.10: Parents choose private school for quality, and public schools for access and low fees



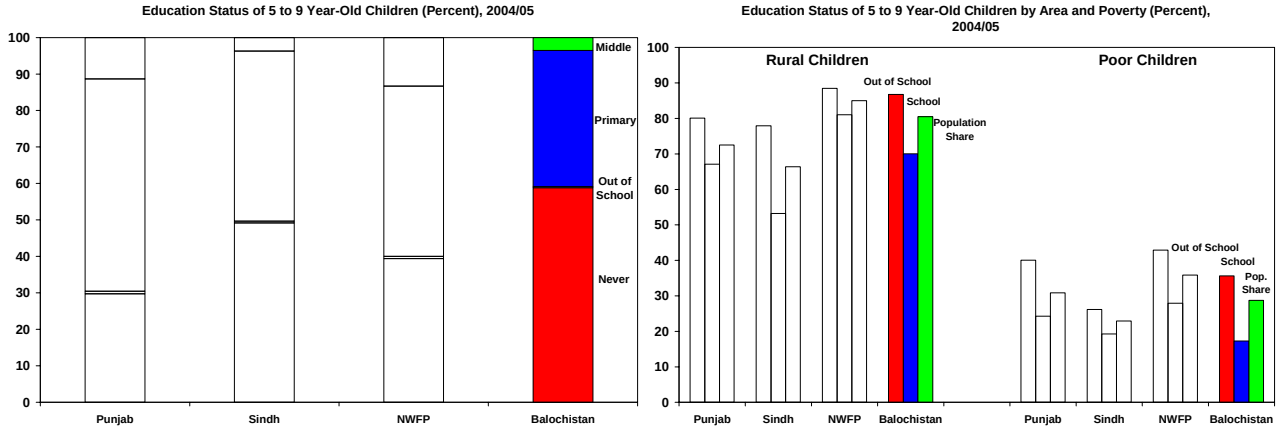
Sources: CIET 2005 and MICS

3.45 How does this whole discussion relate to the testscore puzzle? The findings suggest that Balochistan's grade 4 children in public schools do satisfactorily relative to the children from other provinces because public schools in Balochistan enrol a higher share of urban, non-poor children than elsewhere. Children from more affluent families and communities tend to do better in such tests as they are typically exposed to greater learning outside the classroom.

A Second Look

3.46 Ultimately, the performance of the primary school system should be judged by what public and private schools achieve together. With regard to this yardstick, Balochistan fares worse than other provinces in terms of access. Figure 3.11 shows the educational status of children aged 5 to 9 in 2004/05. Three-fifths (59 percent) of them did not attend school in Balochistan, compared to only three-tenths (30 percent) in Punjab, one-quarter (39 percent) in NWFP, and one half (49 percent) in Sindh. Clearly, Balochistan's education system is failing when some 700,000 out of 1,100,000 primary-school age children are not getting a chance to learn how to read and write. In addition, the system is inequitable: children from rural areas make up only 70 percent of the children aged 5 to 9 attending school, but 87 percent of those not attending school; similarly, children from poor families make up 17 percent of the school population, but 36 percent of the non-school population.

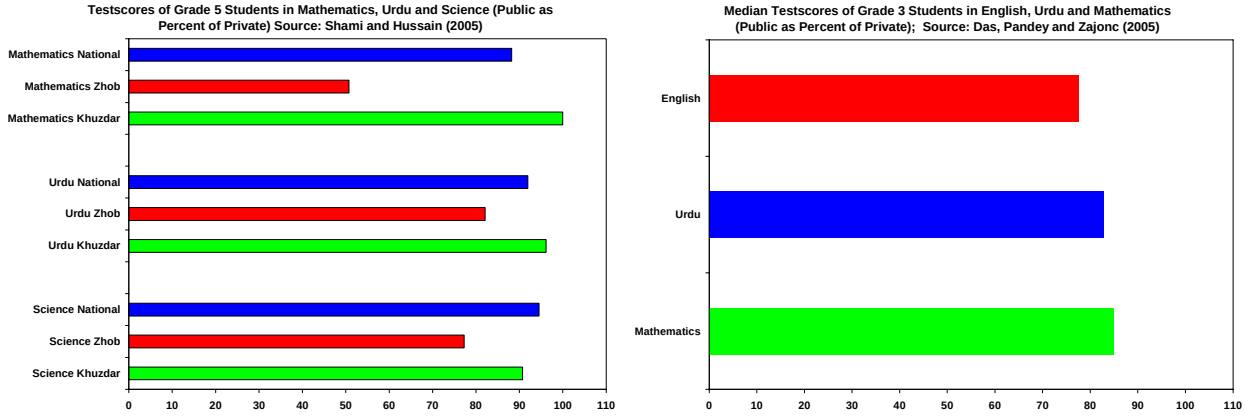
Figure 3.11: Some 700,000 out of Balochistan's 1,100,000 children aged 5 to 9 were not attending school in 2004/05



Source: PSLM

3.47 The poor performance extends to the issue of quality. First, grade 4 children in public schools may do fine compared to children from the other provinces, scores for 400 to 450 leave much room for improvement given a maximum score of 1,000. Second, Balochistan's primary education system would look worse once the comparison is extended to include children attending private schools (Figure 3.12). Indeed, private schools outdo public schools in terms of testscores of grade 5 students in a sample of 14 districts, including Zhob and Khuzdar from Balochistan. The same applies for 112 villages with both public and private schools in three districts of Punjab (Das, Pandey, and Zajonc 2006).

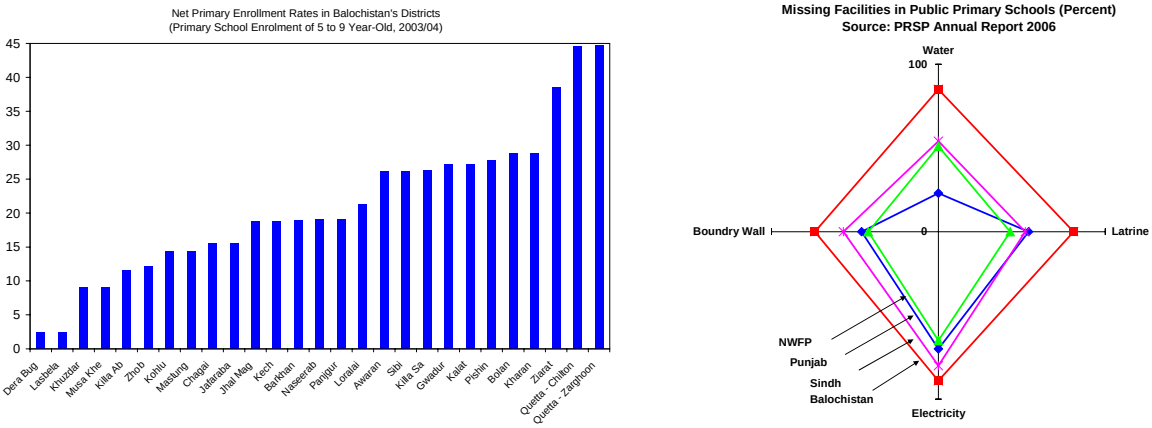
Figure 3.12: Children attending private schools outperform children from public schools in terms of testscores



Sources: Shami and Hussain (2005); and Das, Pandey and Zajonc (2005)

3.48 Beyond the issues of access and quality, Balochistan's primary education system has a number of worrying features that in turn underpin the low access and poor quality. First, while education indicators look poor for the province, they look a lot worse for some districts. The net primary enrolment rate refers to the number of children aged 5 to 9 currently enrolled as a percentage of the total population aged 5 to 9. This access indicator, which is used worldwide to track progress towards the Millennium Development Goals, was in 2003/04 nowhere higher than the 47 percent in the two districts of Quetta, and as low as 2 percent in Dera Bugti and Lasbela, compared to a provincial average of 24 percent (Figure 3.13, left panel).

Figure 3.13: Some districts provide virtually no primary education, and those that do often have poor facilities

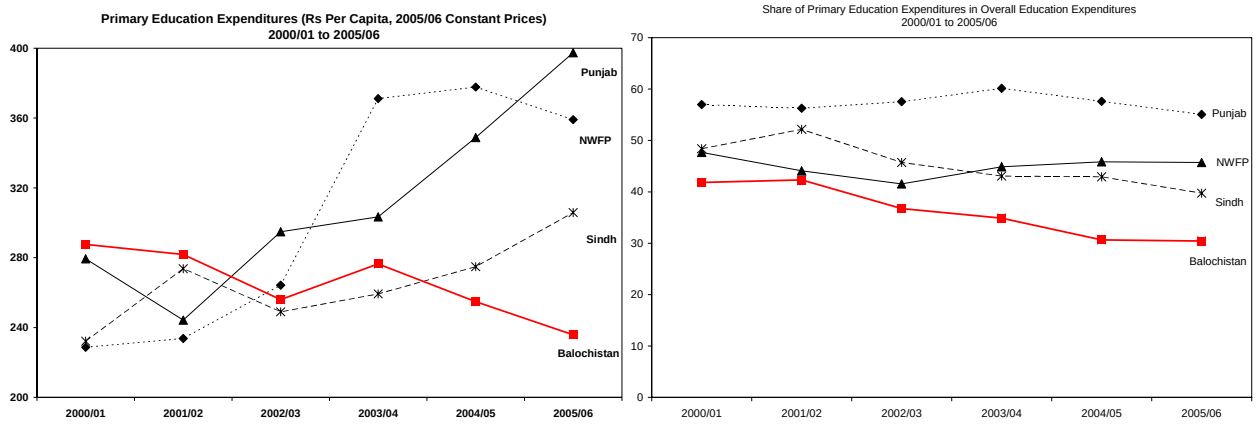


Source: MICS, PRSP Annual Report 2006

3.49 Second, facilities and teaching materials are inadequate and worse in Balochistan than elsewhere, partly due to low public spending. In 2005/06, some 89 percent of public primary schools had no electricity, 85 percent no water, 81 percent no latrines, and 74 percent no boundary walls (Figure 3.13, right panel). Such an environment makes learning difficult: grade 5 testscores in schools with backboards are some 15 to 22 percent higher than in schools without blackboards (Shami and Hussain 2005). Learning requires more than just buildings with basic facilities. Just over one third of the 75 public primary schools from five districts in Balochistan had received the government-provided free textbooks at the beginning of the last school year (Figure 3.15, left panel). An important reason for the poor endowment of public schools with

facilities and learning material is the low and inefficient allocation of resources to primary education. Balochistan regressed from the highest per capita spender on primary education in 2000/01 to the lowest spender by 2005/06 (Figure 3.14). One reason for this adjustment is a shift in education spending away from primary education. By 2005/06, the share of primary education out of the overall education budget was only 30 percent in Balochistan, compared to 40 percent in Sindh, 46 percent in NWFP, and 55 percent in Punjab.

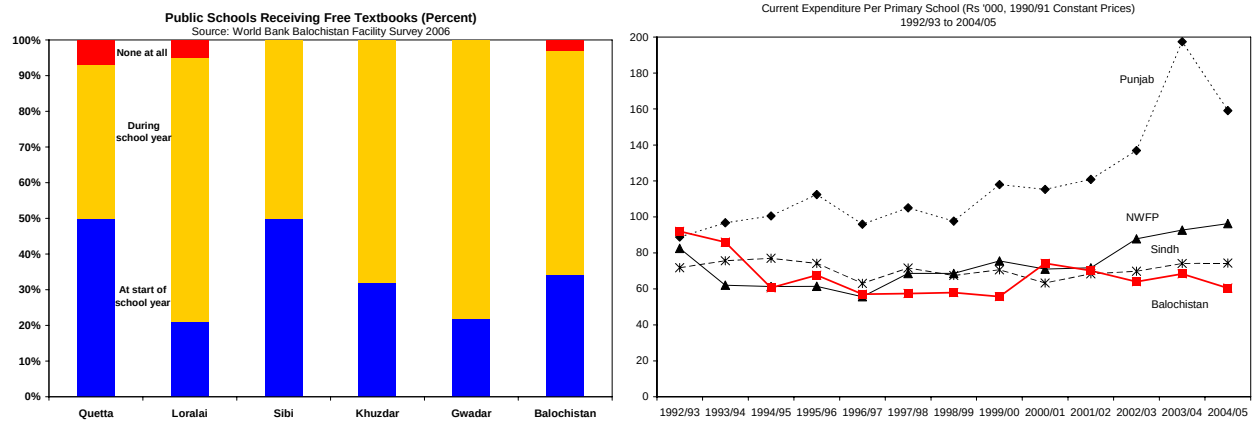
Figure 3.14: Since the early 2000s, Balochistan has become a laggard on primary education spending



Source: World Bank

3.50 While the province allocated substantial funds to the construction of schools, operational expenditures were squeezed. As a result, Balochistan's current expenditures per primary school in 2004/05 were only Rs60,000, roughly half of the level of the other provinces (Figure 3.15, right panel).

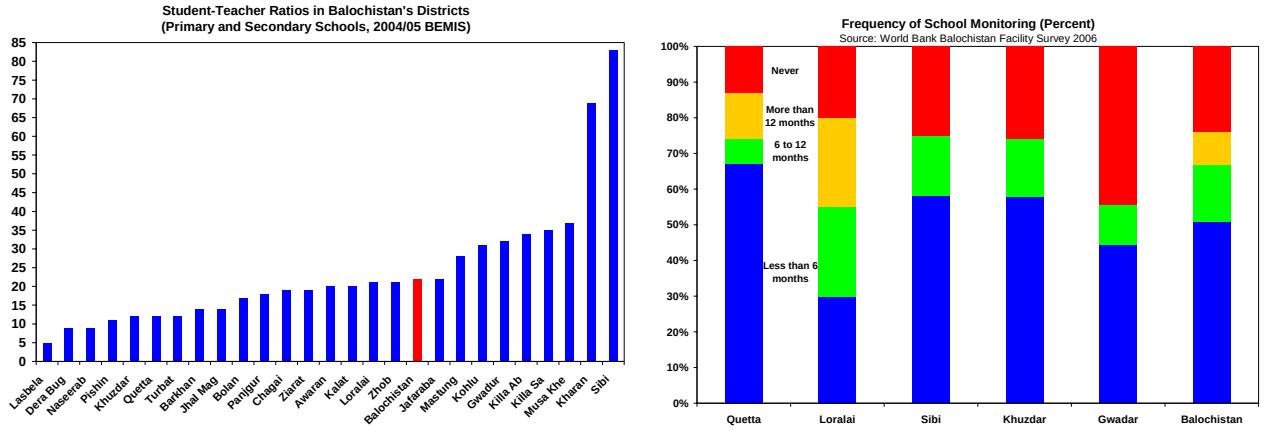
Figure 3.15: Textbook sometimes arrive late during the school year, partly due to a lack of public funds



Sources: BEMIS 2004/05; and World Bank Balochistan Facility Survey 2006

3.51 Third, the unequal deployment of teachers among districts results in an oversupply of teachers in some schools and an undersupply in others. While the student-teacher ratio was in 2004/05 no more than 22 in view of the overall 38,000 male primary, middle and high-school teachers, it was as high as 83 in Sibi, and as low as 5 in Lasbela (Figure 3.16). In addition, the student-teacher ratio at the primary level is much higher, at about 42 in 2006 compared to 37 in 2002. This illustrates the strains in the education system as teacher recruitment lags behind the growth in student population due to demographic trends and modest increases in enrolment rates.

Figure 3.16: Teacher placement is uneven, and teacher monitoring is irregular



Sources: BEMIS 2004/05, and World Bank Balochistan Facility Survey 2006

3.52 Fourth, balancing teacher supply is not just about getting the number right. The quality of learning depends also on how well prepared teachers are for teaching. Even though the minimum academic qualification is only matric (grade 10) for public primary school teachers, few people can meet this requirement in rural areas. The process of recruiting teachers takes typically 6 to 12 months even after formal approval to fill a vacant post, especially in areas that are remote or deemed to be unsafe. As discussed in the previous chapter, evidence from the Auditor General of Pakistan revealed considerable irregularities in recruitment into the bureaucracy in Balochistan, and anecdotal evidence suggests recruitment of teachers is often politically motivated. In addition, half of all schools in Balochistan are single teacher schools. Such schools have to resort to multi-grade teaching. Yet, teachers do not receive any special training to instruct different grades simultaneously. In general, there is no systematic professional development of teachers, beyond the rudimentary training available at the Provincial Institute of Teacher Education.

3.53 Fifth, accountability of teachers to either parents or public officials is weak (Box 3.3). Publicly funded schools are financially independent from communities, so that there is no direct accountability of teachers to parents. Furthermore, as many localities are single-school only, there is no parental school choice, and hence no "voting by feet". In addition, parent teacher school management committees, with representatives from the school, the local council and parents, fail to provide oversight. Unlike other provinces, they are largely non-functional in Balochistan as no funds have been allocated to them by the government and no training on their roles and responsibilities has taken place. Official monitoring of teachers is also only sporadic. The provincial government requires the education executive district officers to report action taken against teachers to the Monitoring and Evaluation Section of the department on a monthly basis. The main district supervisory officer has to supervise from 100 to 150 schools, which is unfeasible in view of the large distances between schools and lack of funds for field visits. A survey of 100 schools across five districts indicated that one third of all primary schools had not been visited by a supervisor or education department official for more than a year.

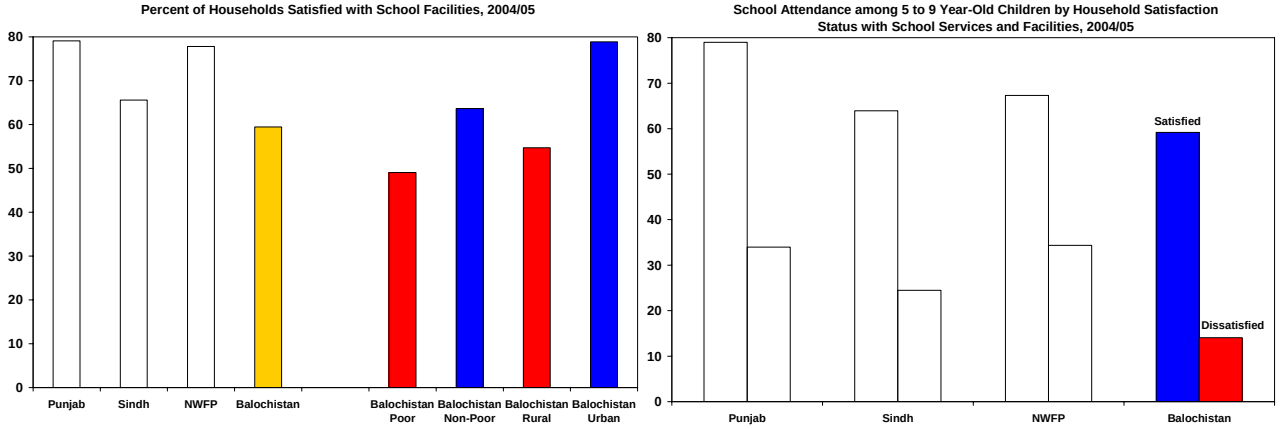
Box 3.3: The challenge of accountability

Accountability of teachers to parents and policymakers is difficult to establish due to three characteristics. First, teaching is discretionary and transaction-intensive; therefore, it is difficult to know whether teachers work well. Teachers must continuously decide about the pace and structure of classroom activity. Have students grasped the ideas? Will another example reinforce the idea or bore the class? Administrative and bureaucratic controls that work well for logistical tasks are overwhelmed when they attempt to monitor the millions of daily interactions of teachers with students. Second, there are multiple tasks and multiple principals. For example, the pressure of some parents can compromise efforts of the teacher to ensure that all children progress well. Finally, it is difficult to attribute outcomes to the actions of the service providers. Education outcomes are co-produced by the influence of households and communities outside the classroom.

Source: World Bank 2003.

3.54 Finally, quality and enrolment are closely linked. Schools that offer low quality teaching discourage enrolment, and vice versa (Figure 3.17). According to the 2004/05 PSLM, only three in five households in Balochistan were satisfied with their schools. This is a lower share than in other provinces. Equally, the poor and rural households in Balochistan are less satisfied than the non-poor and urban households. In Balochistan as elsewhere, satisfaction is correlated with enrolment. Among dissatisfied households, only one in seven of 5 to 9 year-old children attend school, while it is three in five among satisfied households.

Figure 3.17: School enrolment is high when households are satisfied with school services and facilities



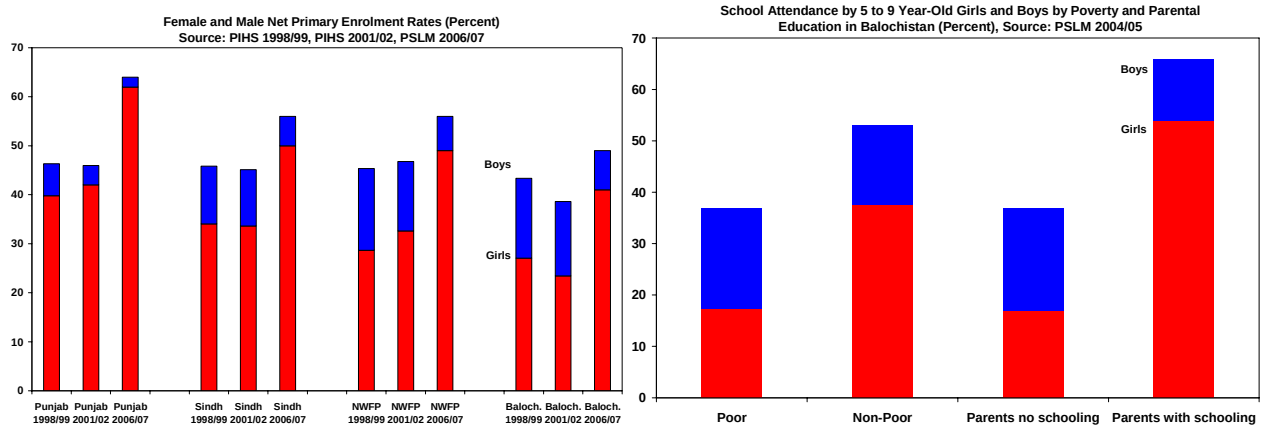
Source: PSLM

Educating Girls

3.55 Finally, the problems of access and quality are especially severe for girls. Since increases in female education can trigger improvements in a host of areas, such as child well-being, family planning, labor force participation, and community empowerment, it is worthwhile to discuss this topic in some detail (World Bank 2006b). As ready mentioned in Chapter 1.3, the enrolment of girls lacks behind the enrolment of boys in Balochistan. The 2006/07 net primary enrolment rate was 41 percent for girls, and 49 percent for boys (Figure 3.18, left panel). Balochistan's female net primary enrolment rate is not only by far the lowest of any provinces, it also lags furthest behind the male net primary enrolment rate. A number of factors are responsible for the gender gap. The demand for education by families is influenced by household income, parental education, parental attitudes, and job prospects. Compared to poor families, non-poor families have a higher primary school attendance and a lower gender gap in enrolment (Figure 3.18, right panel). Equally,

the school attendance of children whose parents attended school is higher, and the difference between girls and boys is smaller, than of children whose parents did not attend school. Regression analysis confirms that especially girls' enrolment is responsive to parental education. Parents appear to value education less for girls than boys. The main reason for girls not attending school is that over one in five parents do not allow their daughters to attend. This compares to only 7 percent for boys. And while for girls aged 10 to14, the principal reason to stay out of school becomes work at home, the field or the shop, the 2001/02 PIHS suggests that primary education raises mean income less than elsewhere in Pakistan.

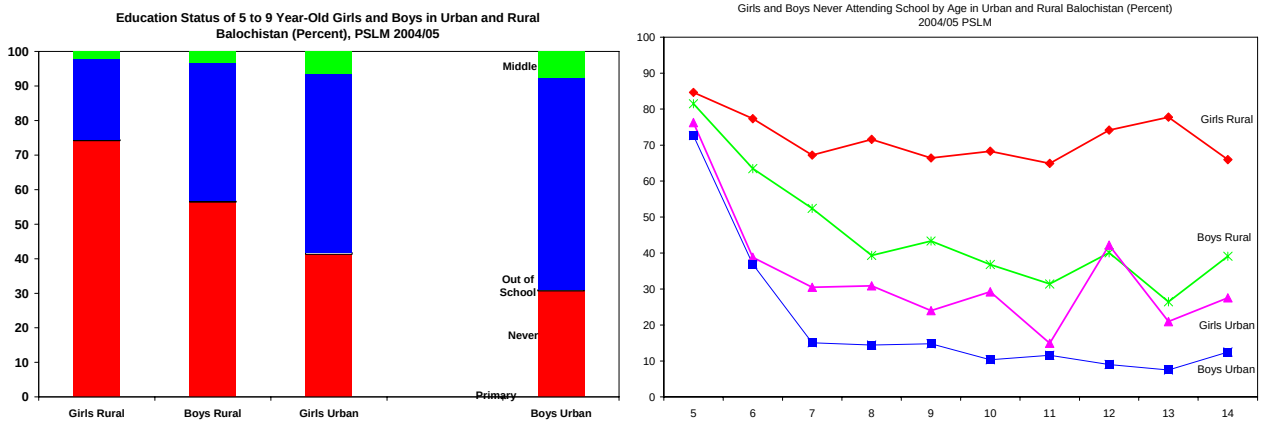
Figure 3.18: Balochistan has a large gender gap in education, especially for children from poor families and with uneducated parents



Source: PIHS 1998/99, 2001/02, and PSLM 2004/05, 2006/07

3.56 The gender gap is also influenced by the supply of public and private education. Much of the gender gap in enrolment in Balochistan as well as the other provinces is due to rural areas (Figure 3.19). Almost three-quarter of the rural girls of primary age never attended school in 2004/05, compared to just over half of the rural boys. By contrast, the gap between girls and boys in urban areas was only 10 percent. Even at the age of 14, over two-third of rural girls never enrolled school, compared to about two-fifth of rural boys.

Figure 3.19: The gender gap is larger in rural than urban areas

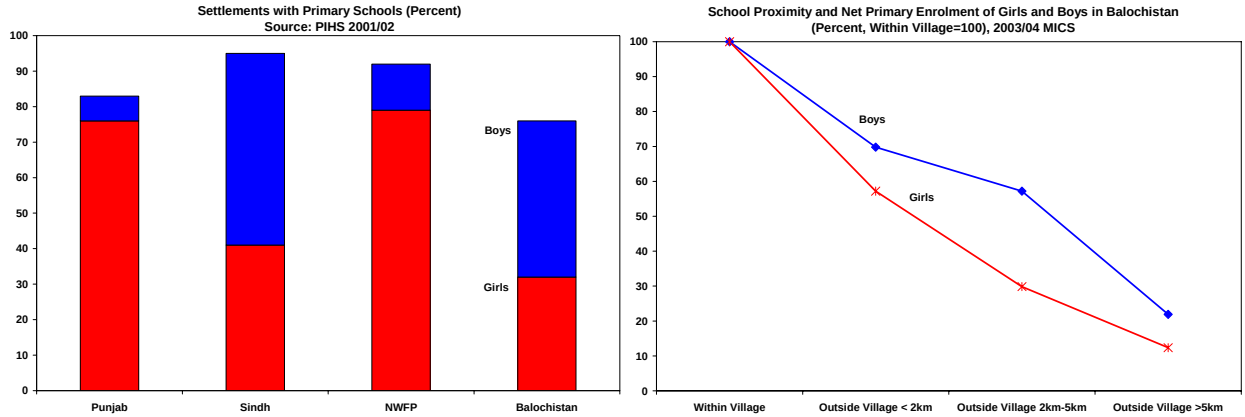


Source: PSLM 2004/05

3.57 One reason for the large rural gap is the differential access to schools within the community. In 2001/02, while three-quarter of the settlements had a boys' primary school, only one third had a girls' primary school (Figure 3.20). In 2005/06, there was only one girls' primary school for every 77 square km,

but one boys' primary school for every 30 square km in Balochistan. Since social norms and customs as well as security concerns limit female mobility, the lack of girls' schools lowers school enrolments sharply.

Figure 3.20: Girls have fewer within-village schools to go to, and are more restricted in reaching outside-village schools, than boys

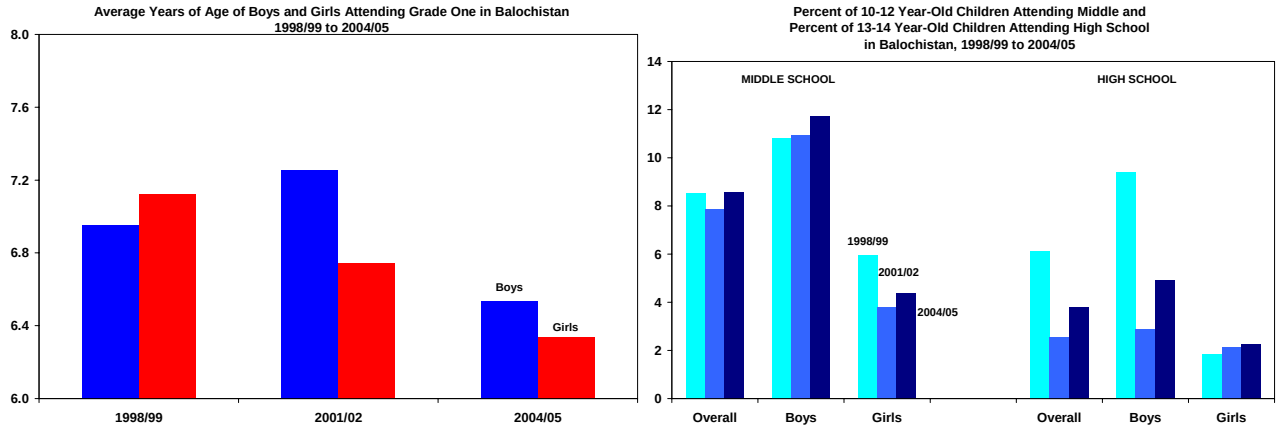


Sources: PIHS 2001/02, and MICS 2003/04

Going Beyond Primary

3.58 While the status of primary education in Balochistan is poor, the status of post-primary level is arguably even worse. First, many children enter the primary cycle later than the prescribed age of entry (Figure 3.21, left panel). While children are expected to enter grade one at age five, it is only by age nine or ten that the maximum enrolment rate at the primary level is achieved; correspondingly, children remain in the primary cycle until their middle to late teens. This rules out attendance of middle school for many, especially for girls who may be expected to get married from the age of 14 onwards. Out of the 750,000 students attending primary school in 2004/05, only 380,000 students were 5 to 9 year-old, the official primary school age. Partly due to the late enrolment into primary education, only few children transition from primary to middle school. The number of students in government schools in 2005/06 drops from 730,000 at the primary, to 104,000 at the middle (grades 6 to 8), and 43,000 at the high school level (grades 9 to 10). The numbers are especially alarming for girls, which decline from 291,000 to 38,000 and to 16,000. Net enrolment rates for girls in middle and high school were only 4.4 percent and 2.3 percent, respectively (Figure 3.21, right panel).

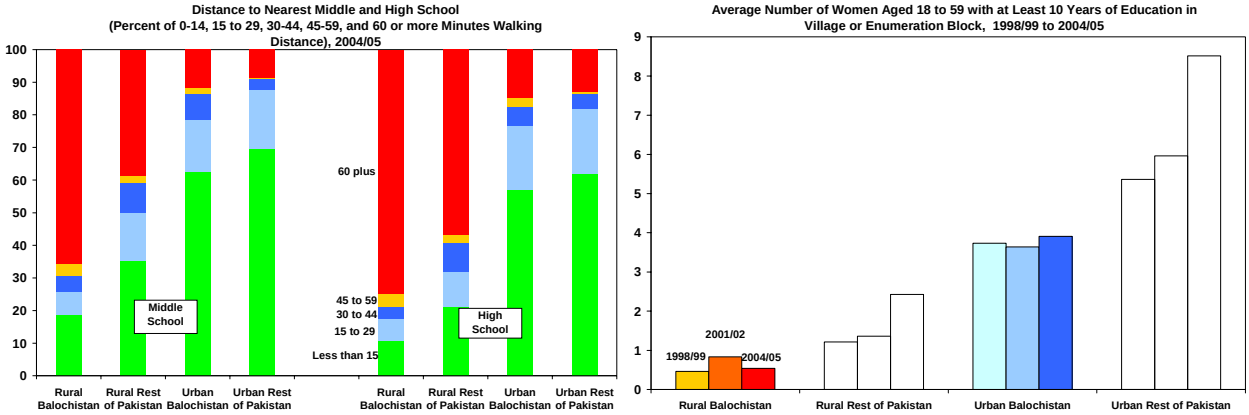
Figure 3.21: Children start primary school late, and only rarely go on to middle and high school



Sources: PIHS and PSLM

3.59 In addition to late enrolment into primary school, the lack of middle and high schools is a crucial factor behind the low enrolment numbers (Figure 3.22). There are only 785 middle and 568 high schools, out of which only 232 and 131, respectively, are for girls. In other words, there is one girls' middle school per 956 square km, and one girls' high school per 2650 square km. While it is not uncommon in parts of Balochistan for girls to attend boys' schools at the primary level, it is socially unacceptable for girls to attend a boys' middle or high school even in areas without any girls' schools. The low number of girls with middle and high school education translates into a low number of female teachers, which in turn reduces the scope for expanding female primary enrolment. In rural Balochistan, only one in two villages had a women aged 15 to 59 with at least 10 years of education, no more than in 1998/99.

Figure 3.22: Middle and high schools are far in between in Balochistan, contributing to lack of female teachers



Sources: PIHS and PSLM

3.60 Balochistan's post-high school education institutions are far in between. The 2006 National Education Census reports a total enrolment of 3,676 students, including 1,111 girls, in the two general universities; 2930 students, including 969 girls, in the 25 technical universities, and 33,000 students, including 11,000 girls, in the 63 pre-university colleges, catering to grades 11 to 13. For vocational and technical education, there are two government polytechnic colleges (one for girls and one for boys) and a further 16 government vocational institutes delivering a variety of courses ranging in duration from a few weeks to over a year, the total enrolment is an abysmal 1315 students. The private sector has another 30 vocational training centers delivering short courses and enrolling around 2000 students. Like in the rest of Pakistan, vocational and technical training in Balochistan suffers from fragmented responsibilities between the provincial education and labor departments, weak linkage to labor market needs, and poor information base about the success of training programs. Recently, Balochistan has embraced reform initiatives of the federal National Vocational and Technical Education Commission.

Way Forward

3.61 Education is a vital part of a person's capacity to lead a life he or she values. More education is linked to better family health, greater participation in society, higher productivity of farmers, workers and small-business owners, and thus lower poverty alike. The benefits of education extend to the society as a whole. A skilled workforce contributes to higher and broadly shared economic growth, as East Asia's experience over the last decades demonstrates. It is therefore encouraging that the Government of Balochistan is committed to improve the access, quality, and urban-rural and male-female balances of primary education, as stipulated in its 2003 Poverty Reduction Strategy Paper.

3.62 The size of the school-age population will continue to rise due to Balochistan's demography as well as the desire of parents to endow their children with skills for a life without poverty. The challenges for the Balochistan's education system are to expand access to education (which is the worst in the country) and close the gender gap (which is the worst in the country) while improving learning outcomes (which are still low in absolute terms; and would be the worst in the country if all children were included, whether they go to school or not). And all this has to be done in a province where the rural population is characterized by small settlements that are widely dispersed across a large area, and a challenging governance environment. A strategy for improving the Balochistan's education system should be organized around four pillars: improving access to public and private education; expanding girls' education; enhancing the quality of education; and strengthening the governance of education.

Raising the Number of Functioning Schools

3.63 Balochistan's principal challenge is to offer the children a chance to enrol into functioning primary school, especially in remote areas. Providing the missing facilities to existing schools and constructing more schools and will remain central elements of the strategy to increase enrolment in Balochistan. Priorities for opening new schools should be established by district government based on transparent criteria. In Balochistan's remote and sparsely populated areas, it may well be too costly to build schools in every village any time soon. These localities could consider arranging for secure transport for children to the nearest schools. The provincial government could also follow models tried in Punjab and NWFP of encouraging district governments to increase education funding by providing matching funds.

3.64 Local communities could also be involved in the maintenance of school infrastructure. School management committees of parents and teachers should be mobilized through concerted information and capacity building programs and the provision of school-specific budgets for the purchase of educational materials and maintenance of school facilities. Balochistan could follow the example of Punjab, where the government has revitalized school councils through guidelines on the roles and financial authorities of the councils, including their authority to undertake small procurement of works; contracting NGOs for the capacity-building of school councils; and the allocation of budgets of Rs400,000 per council for development works.

Increasing the Number of Private Schools

3.65 Given the limitation of the standard public school model, the government should continue exploring alternatives through public-private partnerships. For example, the Community Support Program in rural Balochistan in the 1990s, which set up government-funded and community-managed schools staffed with local female teachers, had a large impact in increasing girls' enrolments (Kim, Alderman, and Orazem 1998). Recently, the government has collaborated with the Balochistan Education Foundation (BEF) in setting up schools that are managed by the private sector and communities with the BEF financing, monitoring, supervision, and capacity building (Box 3.4). The government will need to ensure that the legal framework governing the BEF is strong, the selection of the implementation partners from the private sector is competitive, and the input, output, and outcome indicators are well specified.

Box 3.4: The Balochistan Education Foundation – promoting private-public partnerships

The Government of Balochistan recognizes that the private sector should play a larger role in primary education. It is committed to test different small-scale models of public-private partnerships in the delivery of primary education which, if successful, would be scaled up. In September 2006, with support from the World Bank, the GoB launched a US$22 million Balochistan Education Support Project aimed at setting up 650 community managed schools in rural areas and 300 private sector managed schools in urban and peri-urban areas through the Balochistan Education Foundation (BEF).

The GoB amended the legal framework governing the Balochistan Education Foundation in order to make it an autonomous apex financing and supervisory body, overseen by an independent private sector dominated Board of Governors. BEF, in partnership with several competitively selected implementation partners, has rolled out the first phase of a five year program. Initial results for the first year have been very encouraging. BEF and its Community Schools Implementation Partners have opened 191 new rural Community Schools in 17 districts of Balochistan, with an enrolment of over 7000 students, including over 3400 girls, as against an initial target of 50 schools with an enrolment of 1500 students in the first year. BEF provides financial support for managing schools established to the respective Parent Education Committees. Schools have been opened in communities without any schools. BEF's and its Private School Implementation Partners have established 90 new low-fee Private Schools in peri-urban and urban areas by in 22 districts of Balochistan, with an enrolment of over 5500 students, including over 2600 girls as against an initial target of 50 schools with an enrolment of 2500 students in the first year. BEF subsidizes private school operators on the basis of enrolment and student attendance for a fixed period of three years only. Schools have been opened in low-income communities where private operators were unlikely to open schools without BEF support. BEF has also entered into partnerships with several technical implementation partners for teacher training and capacity building. If this initial success can be sustained over the next few years, it may lead to significant scaling up in the future.

Increasing Girls' Access

3.66 According to the 2005 National Education Census, out of the 7089 primary public schools in rural Balochistan, 1844 schools provided education to boys and girls, and 1495 schools to girls only. Building on this record, enrolling girls in boys schools in villages where there are not enough resources to construct girls schools is an important step towards boosting girls' education. Furthermore, the availability of female teachers is essential for girls' enrolment as well as the growth of private schools. This points to the need of public investments in middle and high schools to train women who ultimately return to their home communities as teachers. Whenever feasible, the government could also consider encourage the recruitment of female teachers from outside the community, but this will require financial incentives and secure housing.

3.67 Many governments have used scholarships or cash transfers that are conditional on enrolment and attendance to improve educational outcomes. Experience from countries such as Bangladesh, Mexico and Brazil has shown that stipends can be an effective means of increasing girls' and low income children's participation in schools. In Pakistan, Punjab provides a monthly stipend of Rs200 to girls enrolled in middle schools in fifteen districts with adult literacy below 40 percent. Preliminary evidence suggests that this program has a positive impact on female enrolment (Chaudhury and Parajuli, 2006). The Government of Balochistan should consider following Punjab's example. This program could initially be piloted in low enrolment districts for primary (and middle) school girls, and, if successful, expanded to the entire province at a later stage.

Improving Teaching Quality

3.68 Effective school learning requires skilled and committed teachers. A number of steps can improve the recruitment policy: raising the purview of the Service Commission; enhancing transparency through a

policy of teachers selected on school-specific contracts and with candidate selection based on a formula consisting of test scores, academic qualification, domicile - and without recourse to interviews. All new teacher appointments should be school specific, with preference given to local teachers. Such reforms should also help in reducing teacher absenteeism, which a 2001 survey found to affect one in four schools in Balochistan. At present, supervisors have few incentives to visit schools, and teachers have to fear little sanctions when they are found to be absent. District and union education monitoring committees are ineffective, as are school management committees where parents have become used to the poor quality of teaching, or lack the ability or willingness to sanction teachers in view of their social status. Once teachers are recruited on contract rather than as career civil servants, they become more accountable. In any case, successfully tackling teacher absenteeism requires an effective monitoring mechanism clearly linked to sanctions and rewards (Box 3.5). The education departments of district governments should use information as a tool for improving teacher performance. They could institute a regular system of monitoring teacher performance through class room testing, display the results in communities, district and union offices, and thereby generate community pressure for improvement.

3.69 These teacher governance reforms need to be complemented with improved teacher training. The current system, which focuses on one-off training only, should be expanded into a comprehensive program for the entire teaching cadre. Components of the teacher training strategy should include the identification of competency levels to be attained during pre-service teacher training, an adequately funded in-service professional development program, and financial incentives for achieving professional standards.

Box 3.5: Reducing teacher absenteeism – two success stories

Reducing teacher absenteeism is difficult and success stories are few. One innovative approach of an NGO that runs schools in India was to use cameras to monitor teacher attendance. Seva Mandir, an NGO that runs non-formal single-teacher primary schools in rural Udaipur district in Rajasthan state, selected 120 schools to participate in this experiment. In 60 randomly selected schools (the 'treatment' schools) the teacher was provided with a camera, which was tamper-proof and had a date and time function, and was required to take a photograph of himself or herself with the students every day during the beginning and closing hours of the school. Teachers received a bonus as a function of the number of 'valid' days that they attended, with a valid day being defined as a day where the opening and closing time pictures were separated by at least five hours and a specified minimum number of students were present in both photographs. Teachers received a salary of Rs.1000 if they were present for 21 days in a month; each additional day of attendance carried a bonus of Rs.50 up to a maximum of Rs.1300 per month; each day of absence relative to the 21 day standard carried a penalty of Rs.50 up to a minimum of Rs.500. In other words, in the treatment schools teacher salaries could vary from Rs.500 to Rs.1300, depending on their attendance. In the remaining 60 schools (the 'control' group) teachers were paid a standard salary of Rs.1000 and no monitoring mechanism was instituted. An evaluation of this program revealed that the teacher absenteeism rate was cut in half in the treatment schools as compared to the control schools. This example shows that a simple intervention involving a mechanically implemented monitoring system with no opportunities for collusion between teacher and supervisor, and a clearly defined incentive structure, can produce impressive results.

Another successful intervention used demand side incentives to improve both enrollment and teacher attendance in selected schools in Kenya. ICS Africa, an NGO, introduced scholarships for the highest scoring (as per standardized official tests) 15% of grade 6 girls enrolled in program schools. The scholarship paid for school fees for the next two years (at the time students had to pay fees to attend public schools), included a cash payment for school supplies, and offered public recognition in an award ceremony. This program was introduced in a randomly selected half out of 127 schools. In the treatment schools, both children and teacher presence increased, suggesting that the demand-side intervention created an incentive for parents to monitor teacher presence, and/or that teachers themselves were more motivated to teach given the status associated with their students receiving scholarships.

Source: Banerjee and Duflo (2005)

3.70 The Government of Balochistan has already taken the welcome initiative of providing free textbooks to students in order to reduce the direct costs of schooling. Unfortunately, the implementation of this policy has fallen short of expectations. The system of textbook delivery should be streamlined to ensure that students get the materials at the start of the school year.

Improving Education Sector Planning

3.71 The planning capabilities of the government should be enhanced. The Balochistan Education and Management Information System (BEMIS), which maintains a database of facilities, staff, and students for government schools, could be strengthened to make it an effective tool for policy planning. This will entail upgrading the district BEMIS offices, regularly conducting sample-based third party surveys to corroborate the BEMIS data, and establishing on-line connectivity between the district and provincial BEMIS offices. An improved database, which includes national identity numbers and demographic information on teachers, will assist in making informed personnel decisions. For example, recruitment decisions could take into account the possibility of teacher re-deployment from schools will low student-teacher ratios. A well-function BEMIS would also be crucial for a successful implementation of a conditional cash transfer program.

3.4 MAKING HEALTH SERVICES REACH POOR PEOPLE

Health Outcomes –the Cheque is in the Mail?

3.72 Health defines the ability to work, feed and sustain a family, to save for the future, to grow and develop, and to lead a fulfilled life. Ill-health is a cause of poverty as well as an obstacle to escaping it. Health is also central for the well-being of a country. A healthy population translates into greater national wealth by improving the ability of children to learn, of families to plan their lives, and of workers to be productive.

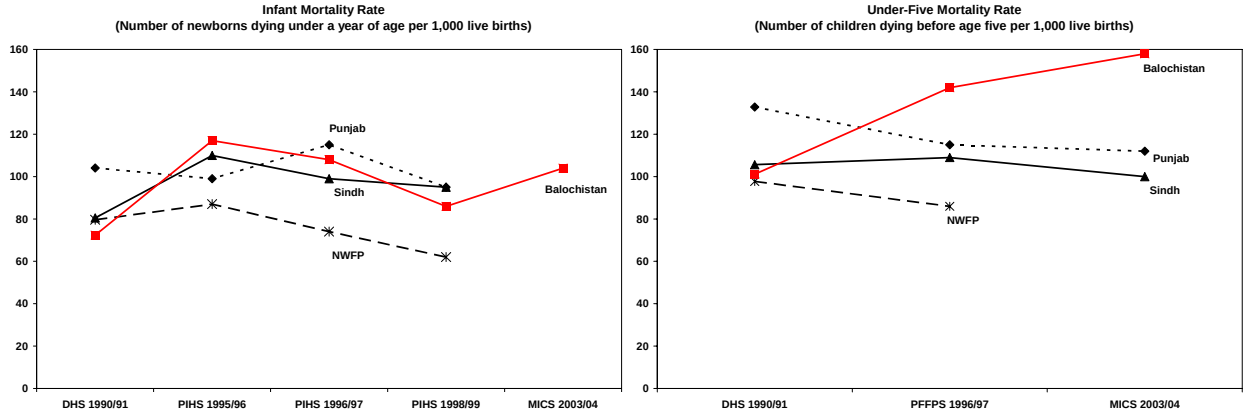
3.73 While data weaknesses make accurate assessments of levels and trends difficult (Box 3.6), there is no doubt that Balochistan's health and population outcomes are poor and improved at best slightly since the 1990s. They also lag behind Pakistan's, which in turn is among the worst performers in South Asia. Balochistan is still at an early stage in the epidemiological transition, characterized by mostly preventable or readily treatable diseases affecting primarily young children and women of reproductive age. The bulk of the discussion in this chapter will therefore focus on maternal and child health (Box 3.7).

Box 3.6: Which trend, which survey?

The demands on health surveys are more stringent than usual. Measuring accurately rare events, such as mortality, requires large sample sizes and careful sampling. Evaluating progress in health indicators over time and space requires information from a consistent series of such specialized household survey. While Pakistan and Balochistan has an impressive array of surveys, including the PIHS/PSLM, the Pakistan Reproductive Health and Family Planning Survey, and the Multiple Cluster Survey, they vary in scope and sample design, complicating comparisons across surveys. Whenever possible, our assessment compares data from the same survey tool. Otherwise, we attempt to make the best possible evaluation of the trends in light of the available information.

3.74 Balochistan has made little headway in reducing child mortality, one of the main health Millennium Development Goals. The latest estimates of infant and under-five mortality rates from 2003/04 were 158 and 104 per 1,000 live births, far above the levels of the early 1990s (Figure 3.23). Under-five mortality was also higher than in the other provinces, and much higher than other Asian countries at similar stages of economic development as Pakistan. The under-five mortality and infant mortality rates were, respectively, 95 and 67 in India, 34 and 26 in Vietnam, and 18 and 15 in Sri Lanka. The lack of a reliable birth and death registration systems makes it difficult to measure precisely maternal mortality rates. The 2003/04 MICS estimate of 600 per 100,000 births suggests that they are high and barely improved since the early 1990's. By comparison, Sri Lanka's latest estimate is below 100 per 100,000 births.

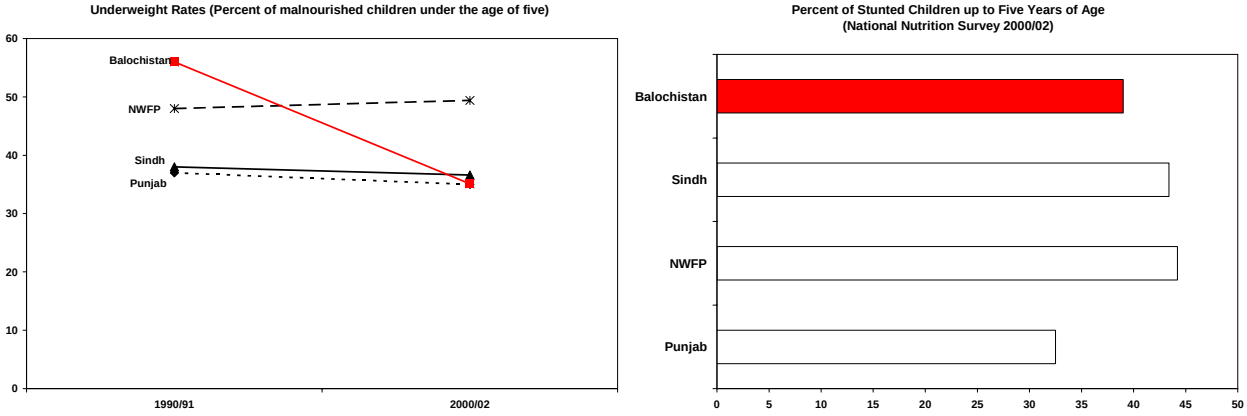
Figure 3.23: Balochistan's mortality rates are higher than in the early 1990s



Sources: NHS, PIHS, MICS, PFFPS

3.75 While mortality rates remain stubbornly high, the nutritional status of children in Balochistan improved since the early 1990s. For example, underweight rates of children under the age of five declined from 56 percent in the early 1990's to 35 percent in 2000/02, although the 2003/04 MICS puts the number at 43 percent (Figure 3.24). In 2000/02, the share of stunted children under the age of five, that is children who are too small for their age, was lower than in Sindh and NWFP. The share of children under 5 years of age suffering from diarrhea in the last 30 days also declined from 17 percent in 2001/02 to 13 percent 2004/05.

Figure 3.24: There is some improvement in the nutritional status of Balochistan's children



Sources: MICS and National Nutrition Survey 2000/02

3.76 According to national surveys, Balochistan's total fertility rate declined from around 7.0 in the mid 1990s to 5.4 in 2000/01, although the 2003/04 MICS estimate suggests little decline. The 2000/01 national estimate is 4.1. High rates of fertility are often the result of inadequately spaced and repeated pregnancies which are detrimental to both maternal and child health. They also translate into high population growth, especially as a large part of the population will still enter reproductive age. Indeed, the National Institute of Population Studies projects that Balochistan's population will double over the next 25 years to around 16 million.

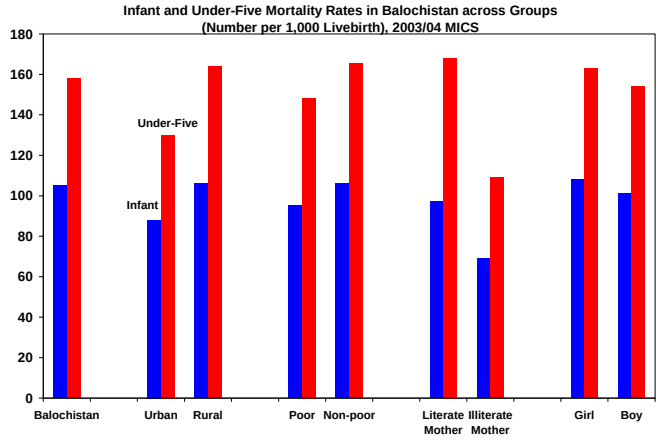
Box 3.7: HIV/AIDS in Balochistan

HIV/AIDS is currently limited to vulnerable groups, such as injecting drug users or sex workers, but the threat to the general population is genuine. A serious challenge for the health sector in Pakistan is the emerging HIV/AIDS epidemic among vulnerable population sub groups. Recent studies indicate HIV prevalence of 23 percent among intravenous drug users, 4 percent among male sex workers, and 2 percent among hijras in Karachi. Similar results are being reported from other large cities. The National Integrated Biological and Behavioral Surveillance found an HIV prevalence of 9 percent among intravenous drug users, 0.7 percent among female sex workers, and 0.5 percent among Eunuch sex workers in Quetta. The evidence from other countries suggest that epidemic can spread quickly from the vulnerable population to general adult population if interventions are not scaled up without delay.

3.77 The trends in health outcomes over time suggest only modest improvements to date. Equally concerning are Balochistan's large inequities in health outcomes across areas, districts, education and poverty status according to the 2003/04 MICS (Figure 3.25):

- The under-five mortality rate was 130 per 1,000 live births in urban areas and 164 in rural areas.
- The under-five mortality rate was 168 per 1,000 live births among children of illiterate mothers and 97 for children of literate mothers.
- The under-five mortality rate was 163 for girls and 154 for boys. In addition to female mortality during reproductive age, this excess mortality of girls contributes to a stubbornly high sex ratio. According to the Population Censuses, it totalled 113 males per 100 females in 1972, 111 in 1981 and 115 in 1998.
- Balochistan's best performing districts, such as Sibi and Naseerabad, are not far of the best performing districts of Pakistan (Karachi, Hyderabad and Sukkur) where the under-five mortality rate are significantly below 100 per 1,000 live births. By contrast, Balochistan's worst performing, such as Dera Bugti and Kohlu, have around twice this ratio.

Figure 3.25: Disparities in mortality rates are large



Source: MICS 2003/04

Box 3.8: Why Poor People Have Poor Health

Poor people in most countries have the worst health outcomes. They are in poor health because they are poor; and they are pushed further into poverty due to ill health. Unlike education, health outcomes of poor people are produced by households – with contributions from many services. Inadequate care for illness, lack of access to good health care services, poor nutrition practices and careless handling of water and waste are major contributors to poor health. Illiteracy, women's ignorance of health issues, and lack of decision-making are often the causes. Moreover, the difference in reactions to the same level of health input between the poor and the non-poor on health outcomes is large. Studies suggest that poor people are less efficient than rich people in translating inputs, such as drinking water, sanitation, and health services, into better health outcomes. While the availability of inputs is already different, the low ability to transform those inputs into health further results in poor health outcomes of poor people. The gap in health outcomes between poor people and rich people have been widening over time.

Source: World Bank (2003)

3.78 While Balochistan's health outcomes are unsatisfactory, increases in the coverage of essential health services from 2001/02 to 2006/07 suggest that improvements might be in the making (Figure 3.26, left panel). Regarding child health,

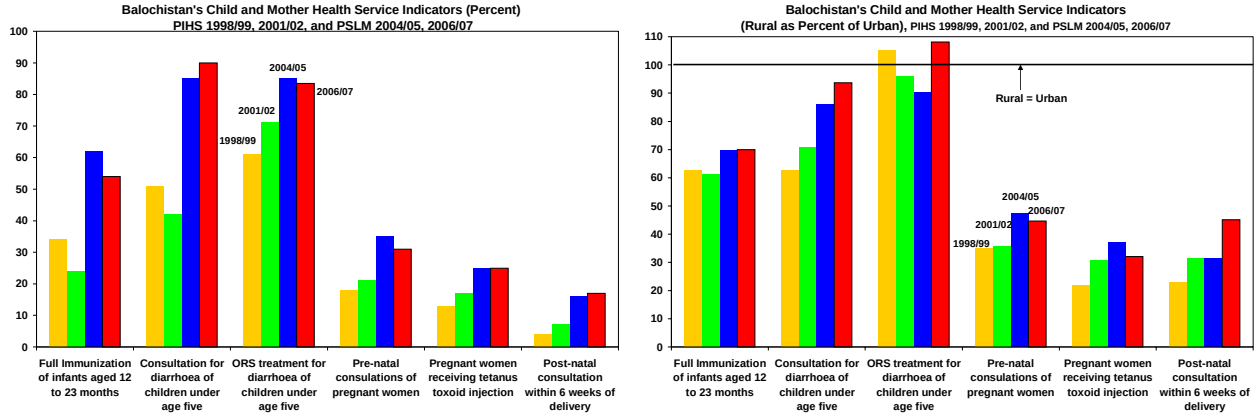
- the full immunization rate of children aged 12 to 23 months increased from 24 percent to 54 percent;
- the share of children with diarrhoea under five years of age seeking consultations increased from 42 percent to 90 percent, and
- the share of children with diarrhoea under five years of age receiving oral rehydration salts rose from 71 percent to 83 percent.

3.79 Reproductive health services improved as well:

- the share of pregnant women receiving pre-natal consultations increased from 21 percent to 31 percent;
- the share of pregnant women receiving a tetanus toxoid injection increased from 17 percent to 25 percent; and
- the share of women receiving post-natal consultations within 6 weeks after delivery increased from 7 percent to 17 percent.

3.80 Furthermore, the child and mother services in villages improved faster than in cities for all but one (ORS treatment) indicator, reducing the urban-rural gaps (Figure 3.26, right panel).

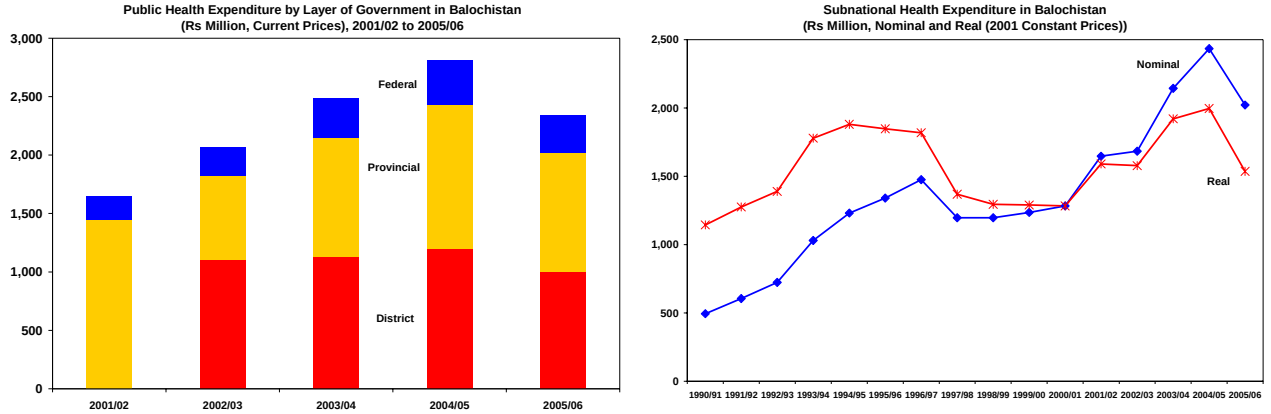
Figure 3.26: Balochistan's child and mother service indicators have improved since the late 1990s



Sources: PIHS 1998/99, 2001/02, and PSLM 2004/05, 2006/07

3.81 What accounts of the recent improvements in the mother and child services? One important explanation is the rise in resources. Overall public spending increased in real terms by 13 percent annually from 2001/02 to 2004/05, although spending declined again in 2005/06 (Figure 3.27). Public health expenditures come from the three government levels, replicating the model for the rest of Pakistan. The federal government supports essential preventive programs for children and mothers, including the lady health worker program, population welfare initiatives, and the expanded program for immunization. Federal expenditure in the province in 2005/06 was twice as high as in 2001/02, and remained adequately focused on the programmatic interventions. They are supervised by provincial managers who are accountable to the provincial department and their national management.

Figure 3.27: Public health spending increased in the first half of this decade



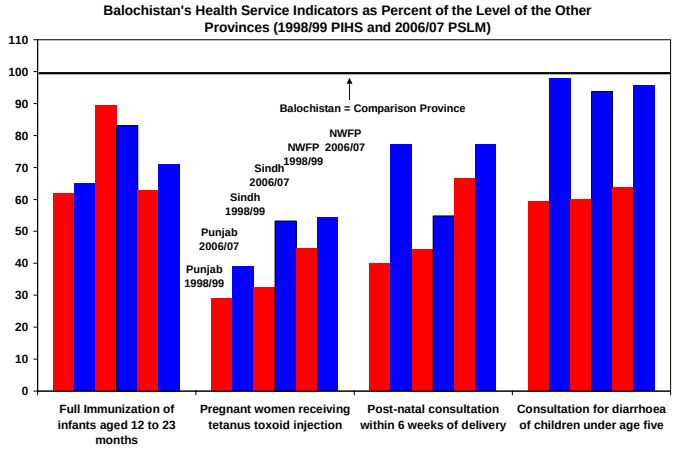
Source: World Bank

3.82 Spending also increased at the subnational level. The provincial health and population welfare departments are based in Quetta. The former administers the four tertiary care hospitals and specialized institutes such as the Bolan Medical College Hospital, as well as the paramedical and medical technician training institutions. By nature of the shift in resource allocation which accompanied devolution, provincial spending fell from Rs1.4 billion in 2001/02 to Rs1.0 billion in 2005/06. Since 2002, district governments have been in charge of the management of the 27 district and 11 tehsil hospitals, the 75 rural health centers, 511 basic health units and 595 dispensaries which constitute the public curative delivery system, as well as the field level delivery of national programs, including the 84 mother-child health centers and the 21 tuberculosis clinics. The district share in overall public spending rose from naught to over 40 percent in 2005/06.

3.83 These additional resources have resulted in improved facilities and staffing. For primary health care, the provincial government has renovated 11 facilities, and appointed staff to 49 previously non-functional health centers. Nine hundred new posts of medical officers have been created. As a result, there are no unemployed doctors in Balochistan and medical officers are posted in virtually all primary health care facilities. The Department of Health intends to proceed similarly to strengthen secondary health care services by building accident and emergency department in 24 district headquarter hospitals as well as creating residential accommodation facilities for staff grade 11 to 19. Efforts have also been made to build local capacity since the 1990s and early 2000s, when the provincial pre-service training capacity increased to eleven institutions, including one multi-purpose paramedical, five public health nursing schools, three nursing and two midwifery schools, with a combined enrolment of around 300 students. The federal government also set up one medical college, training about 135 doctors per year.

3.84 While the government of Balochistan should be rightly proud about the recent investments in health service delivery, they do should not diminish the case for health sector reforms. After all, the other provinces have seen similar improvements, suggesting that they reflect foremost the greater emphasis on the national vertical programs. Furthermore, Balochistan's health outcomes and service coverage still lack behind the rest of country (Figure 3.28), let alone the targets of the Millennium Development Goals which prescribe substantial advances relative to the 1990 outcomes. Finally, notwithstanding the recent advances, Balochistan's health system suffers from a long list of structural weaknesses, which we turn to in the next section. The experience from the Social Action Program of the 1990s indicates that sustainable improvements in health outcomes will only be possible if these weaknesses are addressed.

Figure 3.28: Balochistan has narrowed the service delivery gap to other provinces, but is still lagging behind



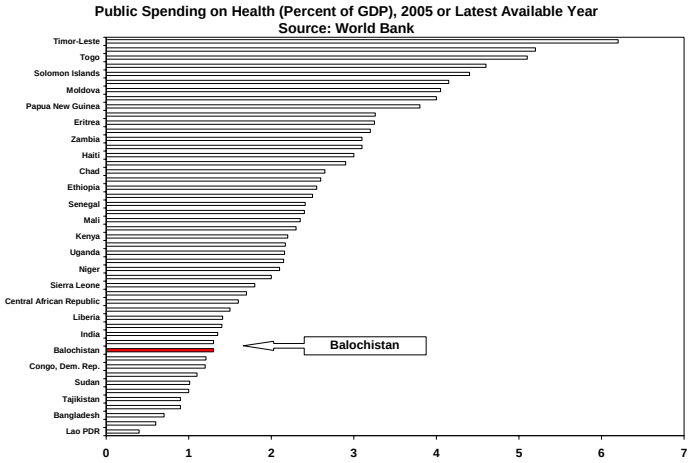
Source: PIHS and PSLM

Weak Expenditure Management

3.85 Low health expenditure is one factor behind poor health outcomes. But even when policymakers allocate resources for front-line providers, there can be weaknesses in budget planning, execution, monitoring, and reporting that hinders efficient health service delivery.

3.86 First, low public spending on essential health care for the bulk of the population is one of the reasons for the poor health of Balochistan's population (Figure 3.29). Health centers need to be built and maintained, equipment purchased, health workers' salaries paid, doctors and nurses have to be trained, outreach activities financed, and free drugs distributed. In 2004/05, public health expenditure per capita was around $6 or 1.3 percent of GDP in Balochistan. In spite of the spending increases since the early 2000s, provincial and district health expenditures are still below the levels of the mid-1990s when social expenditures were supported as part of the Social Action Program.

Figure 3.29: Balochistan's public health spending is low by international comparison



Source: World Bank

3.87 Second, the budget planning is hampered by an inadequate public accounting classification. It does not allow separating funding of different levels of care, as most spending is allocated under the heading "general hospitals and clinics". This makes it impossible for policymakers to use the budget as a effective planning tool for boosting the allocation of resources to frontline services that play the key role in delivering essential health services to the poor people.

3.88 Third, as budget allocations are based on the previous year's budget, they bear little relation to the facilities performance or health needs of the population. The line item approach also leaves managers with little autonomy to reallocate resources across spending heads to enhance efficiently.

3.89 Fourth, expenditure management in the health sector is fragmented. Due to the lack of coordination between capital and recurrent spending, and the lack of resources for matching recurrent funds from donor contributions (Box 3.9), capital investment are a high share of total health expenditures. While information on the economic classification of public health expenditures is not available, an analysis of district health spending from 2003/04 in Balochistan suggests that over three quarter of the funds go towards salaries, and less than one percent on maintenance.

Box 3.9: Foreign health projects in Balochistan

While the amount of foreign projects in Balochistan's health sector is difficult to establish, the province received since the early 2000s funds from ADB, JICA, the World Bank, GAVI, USAID and UN agencies. ADB, USAID, UNICEF and UNFPA support maternal and child health in selected districts; JICA spends on upgrading of health facilities; GAVI strengthens immunization; and the World Bank funds the HIV/AIDS program. In addition, UN agencies provide ongoing support to national programs for immunization, polio and others. While many donors are active in the province, they disburse typically no more than Rs100 million per year due to slow project implementation. The disbursements could pick up with ADB's devolved social services project over $200 million, which supports reforms in the health and education sectors.

3.90 Fifth, effective management requires that turnover of senior staff is limited, yet frequent and politically motivated transfers have hampered the sector since the 1990s. The average tenure of health secretaries between 1990 and 2004 was only 11 months, although the present secretary broke this habit and completed his three years tenure. The average tenure of the health executive district officer in the 15

districts with available information was only 16 months since 2001, suggesting that devolution has failed to result in low turnover.

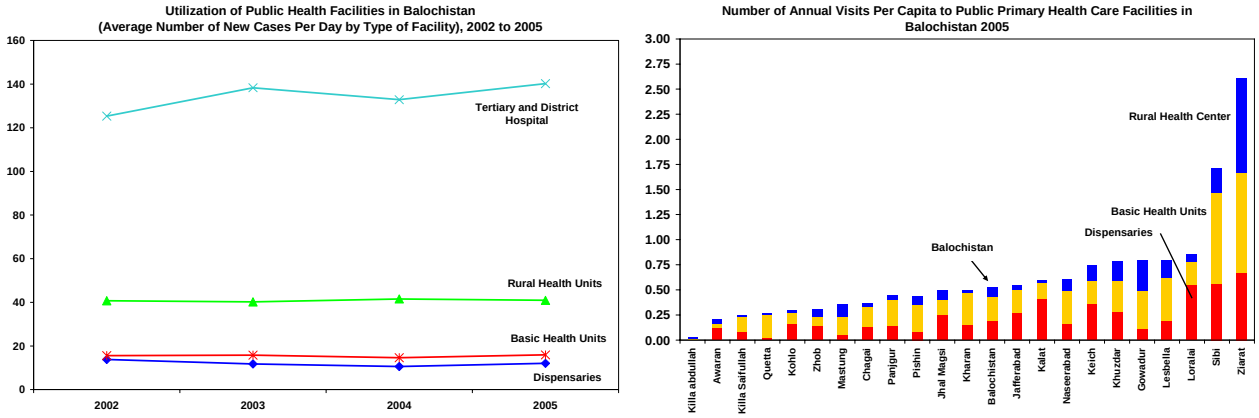
3.91 Sixth, although a reporting and monitoring system exists for the different government layers, their respective responsibilities are unclear and institutional mechanisms are weak. Due to the variety of reporting standards, it is difficult to monitor health expenditures and to evaluate whether or not the health sector priorities are being followed. While senior medical officers undertake regular field visits to all districts and to report back to the provincial health department, the system remains ad hoc and the resources allocated are inadequate.

Failing Frontline Services

3.92 In the design of the Pakistan public health delivery system, basic health units and dispensaries are meant to be the frontline providers of health care to people. The access and quality of these services depend on the inputs and accountability towards health sector officials as well as patients. The problem of low funding and weak expenditure management highlighted above reflect themselves in their limited capacity to deliver the services values by patients.

3.93 The utilization of public facilities in Balochistan is low. The number of patients per day from 2002 to 2005 stagnated around 17 for primary health care facilities in Balochistan, compared to 20 in NWFP, 34 in Punjab and 45 in Sindh (HMIS 2006) (Figure 3.30). Overall, people seek care from a public health care facility in Balochistan no more than once every two years. At the district level, only Quetta and Naseerabad record a utilization of more than 20 patients per day. In Zhob, Kohlu, Jhal Magsi and Killa Saifullah, the basic health units and dispensaries serve less than 10 patients a day. Survey data confirms the lower utilization of health services, whether public or private. In rural Balochistan, one in seven people did not seek treatment when sick in 2004/05, compared to only one in fourteen in the rest of rural Pakistan.

Figure 3.30: Balochistan's public health facilities serve only few patients



Sources: Health Department, Government of Balochistan, and World Bank

3.94 The limits of service delivery on the ground are also tangible for the key vertical programs. In spite of the increases since the late 1990s, the coverage remains poor. Only one third of the districts are close to the target of one *lady health worker* per 1,000 people. A 2002 evaluation of the program found that 50 percent of the lady health workers were performing poorly, compared to 25 percent in Pakistan overall. For example, lady health workers in Balochistan spent less time working than in Punjab or NWFP, and had the lowest knowledge score. Other programs also have much room for improvement. While full immunization coverage almost doubled from the late 1990s to 2004/05, the *expanded program for immunization* reaches more than 60 percent of the infants aged 12 to 23 months in only 6 districts, and remains less than 20

percent in 3 districts. Resources from the *Global Alliance for Vaccine Initiative* reached the province only in December 2005, while implementation started in 2003/04 in the rest of Pakistan. *Family planning* initiatives also fall short relative to demand (Box 3.10). The case detection rate of the *tuberculosis directly observed therapy short-course* is only 52 percent against a target of 70 percent. By end 2006, Balochistan had only signed one out of five contracts for NGOs to provide prevention activities and service delivery targeted at populations at high risk of infection of *HIV/AIDS*.

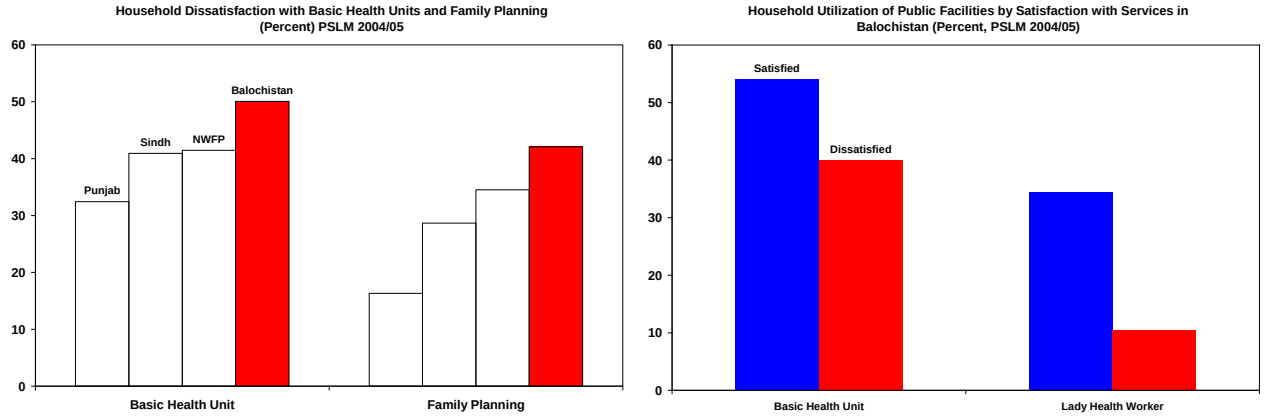
Box 3.10: Balochistan's unmet family planning needs

Balochistan's contraceptive prevalence rate increased slowly from about 5 percent in early 1990s to 13 percent in 2004. This compares poorly to Pakistan's average of 50 percent, and leaves an estimated 28 percent demand unmet (Pakistan Reproductive Health and Family Planning Survey 2000/01). The low contraceptive prevalence leads to a large number of unwanted pregnancies as well as abortions, which are estimated at about one in five pregnancies or 3.8 per 100 women (National Population Council 2004). Most women seek abortions from unqualified personnel, contributing to high morbidity and mortality. The poor coverage reflects the low availability of family planning services as well as lack of awareness, religious and cultural beliefs, and fear of side effects.

Accounting for Low Utilization

3.95 What are the main reasons for the low utilization of health services? First, the population is dissatisfied with the health services available. The 2004 Community Information and Epidemiological Technologies Survey showed that 44 percent of the patients were dissatisfied with the services received in the public health sector in Balochistan compared to 31 percent in Pakistan. According to the 2004/05 PSLM, some 50 percent of the households were dissatisfied with the basic health units and 40 percent with family planning services, the highest shares among the provinces (Figure 3.31). And households in Balochistan who are dissatisfied with services were less likely to use them.

Figure 3.31: Households in Balochistan are more dissatisfied with public health facilities than in other provinces, and use them less as a result

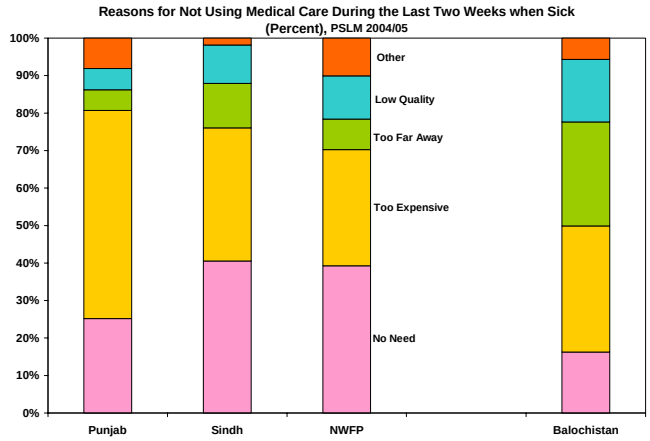


Source: PSLM

3.96 Second, unsurprisingly, the long distance to health facilities prevents households in Balochistan from utilizing them. One third of the population in Balochistan lives more than an hour away from the nearest facility compared to only one tenth in Pakistan; and close to 30 percent of Balochistan's population not seeking health treatment when sick in 2004/05 did so because of the distance, compared to only 5 percent in Punjab (Figure 3.32). This reflects Balochistan's vast and thinly populated landmass but also a placement of public facilities that does not prioritize areas with the greatest needs. For example, the Auditor General of Pakistan 1998-2000 evaluation of the Social Action Program found that the set-out criteria for

facility placement were typically not met. According to the health management information system, the best-off quarter of districts had 24.3 hospital beds and 0.82 basic health unit beds per 10,000 people, compared to 3.7 and 0.73 for the bottom well-off three quarter of districts.

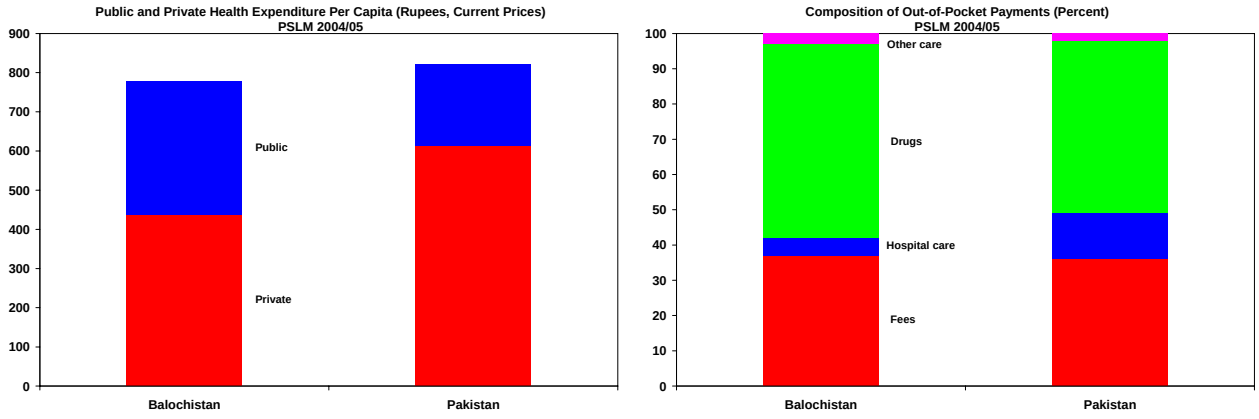
Figure 3.32: Distance, costs and quality are the main reasons for staying away from health facilities when sick



Source: PSLM

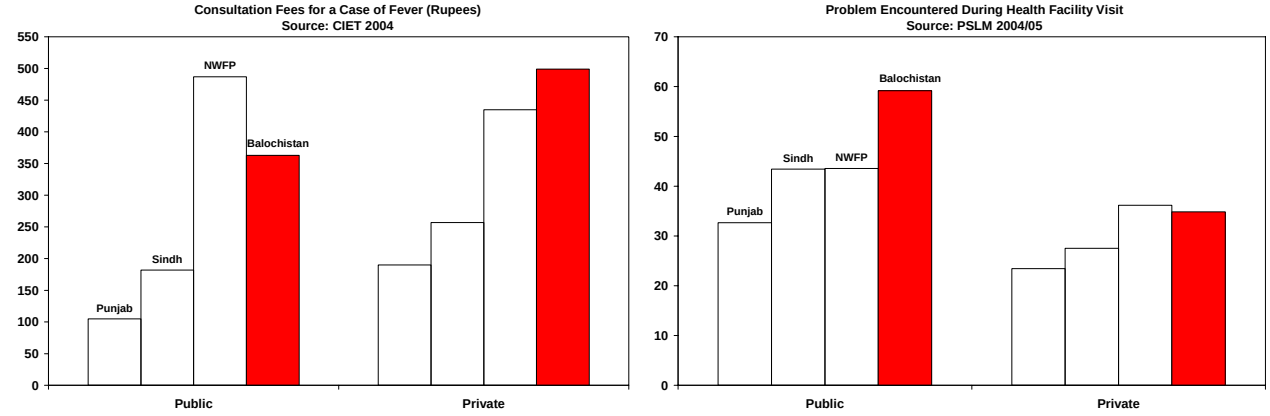
3.97 Third, financial costs are another important reason for not seeking care. Out-of-pocket health expenditures averaged $7 per capita or 7 percent of non-food household expenditure in 2004/05, although households receiving treatments paid a much higher share. Private expenditure is not only concentrated among the rich, and the bottom quintile spends about half the amount of the top quintile. Compared with the rest of Pakistan households tend to spend less on hospital care, possibly because they have lower access, and more on drugs, which can reflect a great reliance on self-medication. Fifty six percent of the total health expenditure in Balochistan was funded by households in 2004/05, compared to 74 percent in Pakistan (Figure 3.33). This is likely due to the lack of household cash income and the fact that people refrain from seeking care rather than the low cost of service. Balochistan's fees for health consultation for fever were indeed the highest in the private sector, and second-highest and substantial in the public sector (Figure 3.34).

Figure 3.33: Household in Balochistan spend less on health than elsewhere, and most of it on drugs



Source: PSLM 2004/05

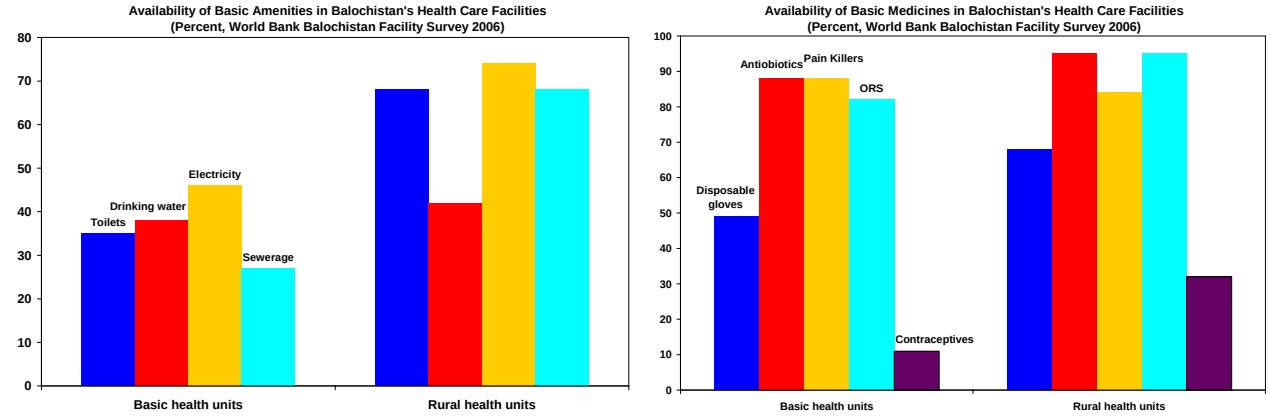
Figure 3.34: Private health consultations are expensive in Balochistan



Sources: CIET 2004, PSLM 2004/05

3.98 Fourth, the quality of service delivery is low. One in six sick persons did not seek treatment in health facilities in 2004/05 due to concerns about quality, the highest share across provinces. Most government facilities, particularly in rural areas, lack quality basic inputs; some are in an abysmal status with empty and dilapidated buildings, and many lack basic amenities (Figure 3.35). Encouragingly, the availability of basic medicines in 2006 was satisfactory, with the exception of contraceptives.

Figure 3.35: Balochistan's health centers have poor facilities but adequate stock of medication



Source: World Bank Balochistan Facility Survey 2006

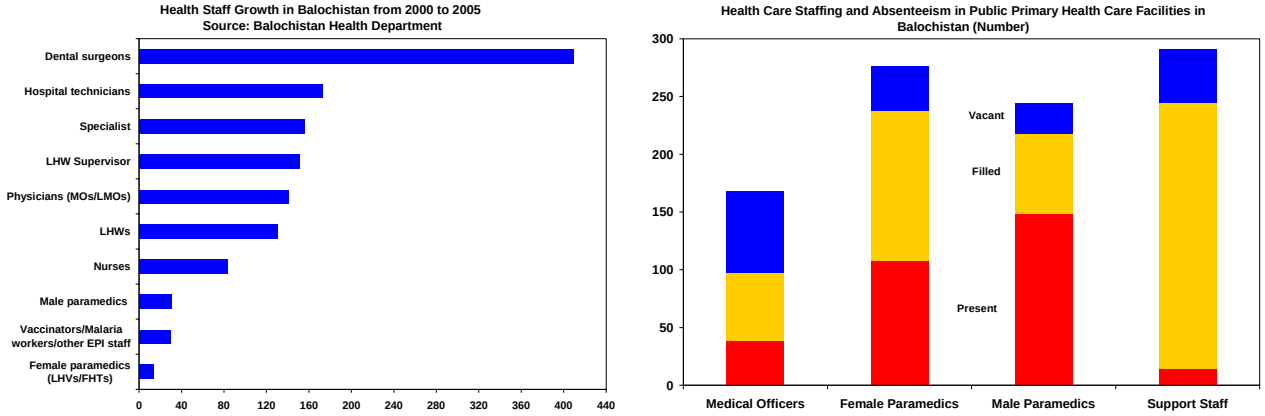
3.99 Fifth, one reason for the low quality is that the private sector remains underdeveloped, leaving people with little choice in health care providers and reducing competitive pressures for better services. Some 60 percent of persons receiving consultations in 2004/05 experienced some problem in public facilities compared to only 35 percent in private facilities. While the dissatisfaction with public services was higher in Balochistan than elsewhere, public facilities remain for many households the only accessible option. Some 45 percent of persons relied on public facilities for health treatment, compared to 17 percent in Punjab, 23 percent in Sindh, and 27 percent in NWFP.

3.100 Sixth, the poor management of human resources in public facilities contributes to the low quality. The first problem is that there is a significant shortage in nursing and female paramedics. In November 2006, there were 726 nurses in public employment, compared to 2,998 doctors and specialists. While the ratios of 10,500 persons per nurse and 12,101 persons per female paramedic are the lowest in the country, the ratio of 2,430 persons per doctor is the highest in the country. The doctor-nurse ratio of 4:1 is the

inverse of the 1:4 ratio recommended internationally to ensure the provision of good quality hospital services and nursing care. There are different explanations for the shortage, such as low education qualification of women; cultural values restricting female labor force participation; and a lack of training opportunities. But it is also a result of the public sector hiring strategy:

- The increase in nurses and female paramedics in the past five years was much lower than that of physicians and specialist (Figure 3.36, left panel).
- The second problem is the uneven placement of staff across districts. Two-third of the specialists and nurses and one third of the physicians are posted in provincial institutions or Quetta. A 2006 survey of 101 mostly rural primary health care facilities showed that less than 60 percent of the medical officers' posts were filled. A recent attempt to post eight specialists to headquarter hospital in remote districts failed due to the inherent unattractiveness of such postings.
- The third problem is weak accountability. Many doctors and other personnel perform their tasks judiciously and with professionalism. Yet, others are frequently absent from their posts, perhaps acting as private doctors, increasing the workloads of those present in the public facilities. Good performance is not rewarded and non-performance not penalized, further reducing motivation and contributing to absenteeism or multiple job holding. Only one third of the staff was actually present at their duty station during the 2006 primary health facility survey (Figure 3.36, right panel).
- The fourth problem is that devolution ironically reduced the administrative authority of district health management staff. Prior to devolution, the health executive district officer could appoint, transfer, and discipline staff up to grade 10. Now, as appointment, posting, and transfer rules have not been notified for districts, such decisions for staff on the basic pay-scale from 1 to 17 require approval by the provincial health department.

Figure 3.36: Balochistan has hired more health specialists than nurses, while vacancies and absenteeism remains a grave concern in rural areas



Sources: Balochistan Health Department, and World Bank Balochistan Facility Survey 2006

Way Forward

3.101 Regardless of the improvements in health service delivery since the late 1990s, Balochistan's health sector faces significant problems, including the low utilization of public health services, the lack of resources, the low coverage of essential services in remote areas, the lack of skilled women, weak governance, and incomplete devolution. The Government of Balochistan recognizes these challenges explicitly in its 2006 draft health sector strategy. It has also launched new initiatives (Box 3.12). Indeed, Balochistan needs to undertake bold reforms to improve access to and quality of care in remote areas and to strengthen professionalism, management and accountability at all levels. Given the depth of the problems

and the dearth of resources and capacity, it will be important to set clear priorities and remain realistic in the goals.

Box 3.11: Balochistan's 2006 draft health strategy

The 2006 draft health strategy of Balochistan's department of health is a welcome step forward. The paper is the outcome of a long consultation process within the department; is honest about the challenges faced by the sector; and embraces laudable objectives, such as to reduce inequalities of accessibility, acceptability and adaptability, to focus on quality, to make the health facilities function, to control communicable diseases, and to advocate for the rights of children and women. However, the thrust of the document is to improve the existing programs across 12 broad areas rather than to encourage selective, innovative reforms for tackling the problem of poor implementation. For example, the strategy calls for ensuring the placement of two medical officers and one lady medical officer per basic health unit. Yet, it remains silent about how this target can be achieved in view of the scare public resources, the lack of qualified women, and the difficulties of filling vacant posts in remote areas in the past; or how these basic health units would overcome the problem of low utilization. Similarly, the strategy recommends a list of benefits, including rent allowances, free accommodation, and creation of hostels for bachelor doctors, as well as education grants for children and training entitlements for remote areas. Yet, these benefits appear unrelated to performance, and there are no proposals for improvements in monitoring and reductions in absenteeism.

3.102 *Scaling up investments in cost-effective mother and child health services.* The government should define a basic benefit package, including basic obstetric care and family planning, in view of the available resources and capacity. Health facilities and programs should ensure that ultimately every woman and child has access to such a package. A special effort should be made to introduce this package in underperforming districts, such as Musakhiel, Dera Bughti, Barkhan, Jhal Magsi, Awaran, Killa Saifullah, Killa Abdullah, Bolan, and Kohlu.

3.103 *Piloting innovative modes of service delivery*. Pakistan's standard health service delivery system was not designed to cope with the challenges of remoteness and scattered population. Alternative models that delivered in other countries with similar constraints should be tested. One option is an integrated model of primary health care where a tehsil headquarter hospital or a rural health center serves as the hub for four to five basic health units. The basic health units could then be managed by paramedical staff with regular supervision by physicians stationed at the hub. This model could also integrate smaller basic health units, staffed by paramedics and housed in rented buildings, as fruitfully tried in Afghanistan. An alternative approach, based on African experience, would be to introduce either mobile units for delivering services at the population's doorstep or to provide mobility to the community members themselves with the help of specifically designed motorcycles and sidecars. While Balochistan's experimented unsuccessfully with mobile units in the past, the reasons for this failure were linked to management problems rather than flaws in the models themselves. Indeed, the population welfare department and some NGOs continue to rely on mobile units within the province. Whatever models are chosen, the key question is how to best adapt, operationalize and manage alternative delivery models to the specific context of Balochistan. Various options could be piloted on a small scale by qualified managers. They should be given the autonomy to shape the mode of service delivery but be held accountable for results on the grounds on key output or outcome indicators.

3.104 *Strengthening merit-based recruitment*. To date, promotions to managerial positions are granted on the basis of seniority rather than on skills and performance. Instead, the department of health could strengthen skills-based competition for the selection of staff on managerial positions from an internal pool of staff. It could also consider hiring managers from the market, following the examples of the department of health in NWFP and the lady health worker program. In addition, district management staff could receive performance-based bonuses if they deliver improvements in key indicators. An independent third-party

could assess the progress of well-defined indicators on an annual or biannual basis. Lessons could be learnt from the ongoing reforms in NWFP.

3.105 *Increasing managerial autonomy*. Qualified and accountable individuals are likely to achieve better results if they are granted administrative and financial autonomy. Based on an analysis of the actual decision making powers of district managers, options could be explored to increase their capacity to manage human, financial and physical resources.

3.106 *Emphasizing monitoring and evaluation*. Balochistan's health management information system cell produces important information, but there is no systematic monitoring and evaluation framework and dissemination is limited. By regularly and widely disseminating information on the performance of districts on well-defined key indicators, the department of health could mobilize stakeholders, including the users, staff and local governments, and strengthen the demand for reforms.

3.107 *Harnessing the private sector*. The province needs to creatively harness the potential of the private sector for the provision of quality health care. The department of health could build upon the existing partnerships and test out new approaches. The focus of the partnerships should be areas in which the province lags behind and needs some quick wins, including the provision of obstetrical services in underdeveloped districts; working with NGOs to improve tuberculosis and acute respiratory infection case management among private providers. The approaches should have in-built system for independent evaluation so that lessons could be learned and applied to future efforts. The government could attempt to improve hospital management by contracting out the management to the private sector or NGOs, contracting in individuals to provide management consulting services to hospital managers, hiring hospital managers from the private sector on market salary, or contracting out ancillary services of the hospital.

3.108 *Expanding the President's initiative to underperforming districts*. The President's initiative intends to improve access to primary health care by entrusting the management of basic health units to NGOs. Balochistan implements this laudable program of public-private partnerships in five relatively well-off districts. The experience of Cambodia, Bangladesh, Afghanistan, and Rahim Yar Khan of Punjab shows that progress can also be made in lagging regions. Balochistan should expand the program to remote districts to advance the learning on how to make service delivery work in such environments.

Box 3.12: Selected government initiatives in health

- ADB's devolved social services program aims to improve health services for poor people, especially in the area of control and prevention of infectious diseases.
- In order to address the lack of female staff, Balochistan's Health Department has established training schools at Loralai, Khuzdar, Kech fur nurses, lady health workers and midwifes.
- The province aims to depute at least one lady health worker in every village of the province.
- New staff vacancies have been created in 2006/07 for paramedics and medical staff to address deficiency of staff at basic health units.

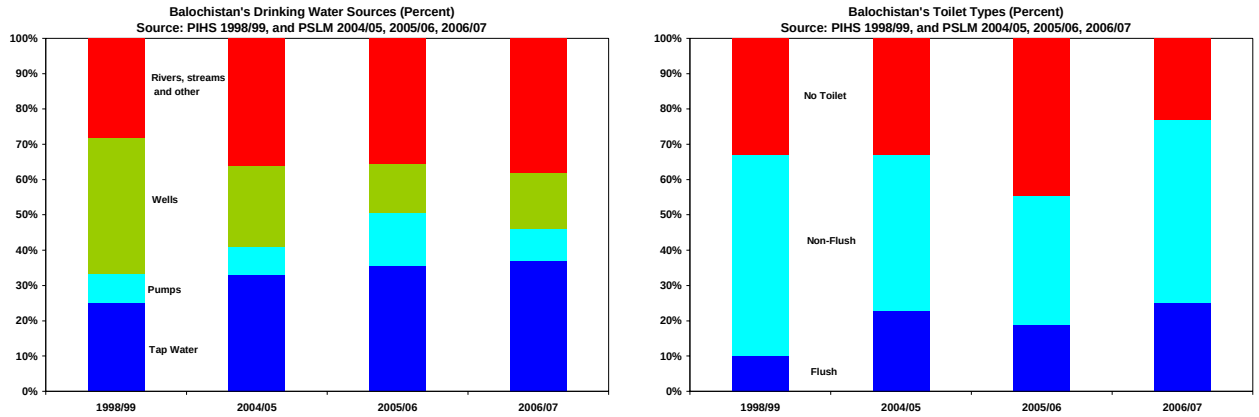
3.5 SECURING HEALTH THROUGH IMPROVED WATER SOURCES

Uneven Access, Uneven Quality

3.109 Water as a resource is critical to sustainable development, whether it is about environmental protection, food security, or labor productivity due to less morbidity and malnutrition. Safe drinking water is one of the most basic human requirements. Balochistan's access to improved drinking water sources is likely to have increased since the late 1990s, although the data classification makes it impossible to know by how much. At a minimum, improved water sources include water from pipes and pumps, which rose from 33 percent in 1998/99 to 46 percent in 2006/07 (Figure 3.37, left panel). The other two categories, wells and rivers, streams and other sources, could include both improved water sources (protected wells or springs) and unimproved water sources (unprotected springs, rivers or ponds, and tanker truck water). The reliance of households on rivers, streams and other sources increased, probably due to the lowering of the water during the drought which made pumps and wells less productive.

3.110 The improvements in drinking water supply are matched by similar progress in sanitation. Human wastes cause sickness. When wastes are left on the ground near drinking water, whether at source, in a pipeline, tank, or domestic utensil, come into contact with the water, the bacteria can contaminate that water and unsafe for drinking. The share of Balochistan's households with flush toilets increased from 10 percent in 1998/99 to 25 percent in 2006/07, although the share of households with no toilet remained unchanged (Figure 3.37, right panel).

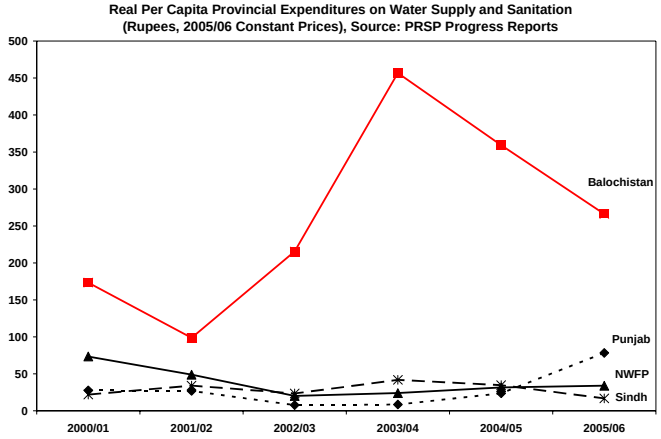
Figure 3.37: Access to improved sources of drinking water and sanitation increased in Balochistan



Source: PIHS 1998/99, and PSLM 2004/05, 2005/06, 2006/07

3.111 The modest advances have not come cheaply. For the last six years, Balochistan outspent the other provinces on water supply and sanitation, as might be expected in view of the higher cost of service delivery due to remoteness and arid terrain. In 2005/06, the disbursed budget was Rs263 per capita in Balochistan, compared to Rs78 in Punjab, Rs34 in NWFP, and Rs17 in Sindh (Figure 3.38). In addition, per capita spending rose in real term by about 50 percent from the early to the mid-2000s, indicating a greater emphasis on closing the coverage gap.

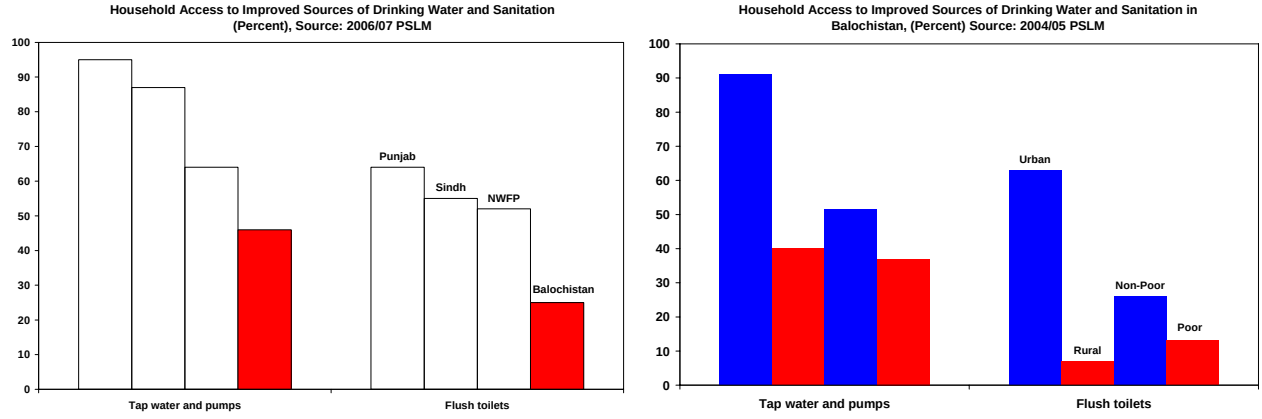
Figure 3.38: Balochistan is spending heavily on water supply and sanitation



Source: PRSP Progress Report

3.112 Whatever the progress, Balochistan still lags far behind the other provinces in the access to improved water sources, and there are large gap in coverage between urban and rural areas, and non-poor and poor households (Figure 3.39). In the absence of a public piped delivery system as well as a shallow groundwater table, less than one in two households in Balochistan get their water from a tap or a pump. In contrast, almost all households in Punjab obtain drinking water from tabs and pumps. In the mountainous areas, water supply is usually from springs and streams while in the low-lying areas it is from tube wells and dug-wells. In the urban areas, water is increasingly delivered through pipes, from groundwater, rivers, and streams. The intra-district variation is also enormous. Access to piped water in rural areas varies from over 50 percent in Quetta and Pishin to below 10 percent in Ziarat, Lasbella, Kech, Punjgur and Jhal Magsi. In terms of sanitation, just about one in twenty rural households in Balochistan, have flush toilets, compared to three in five urban households. Similar service gaps are present for waste management. According to the 2003/04 MICS, about three-quarter of rural households, and one quarter of urban households, dispose of wastewater in open streets or fields, and about ninety percent of rural households and half of urban households dispose of solid waste in open fields.

Figure 3.39: Balochistan's improved water access lags far behind the other provinces, and is very low in rural areas and for poor households



Source: PSLM 2004/05 and PSLM 2006/07

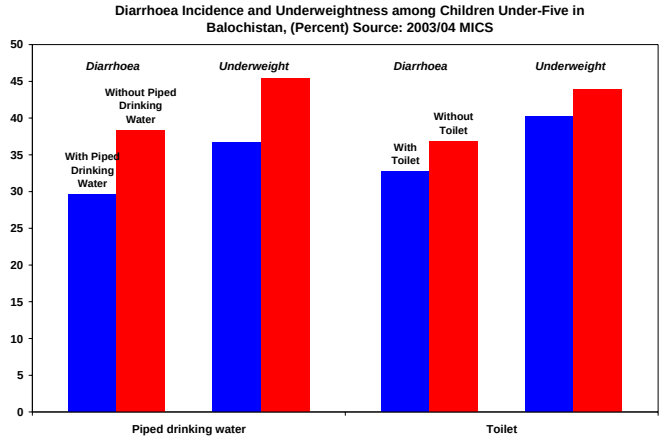
3.113 Even in the areas with water access, there is no systematic monitoring of the quantity or, even more critically, quality of drinking water supply. The availability of a water tap does not ensure that drinking

water is being supplied regularly or it is safe in short or long term. In Quetta, even though four-fifth of all households have access to the piped network, most receive water for no more than half an hour a day and instead rely on water tankers operated by the private sector. They are expensive in per unit cost of delivered water and can be suspect in terms of quality.

3.114 Water at the source such as tubewells and springs, outside population centers, may generally be free from biological contamination. In the distribution network and at delivery points, it is likely to be contaminated because of lack of solid waste and wastewater management systems as well as hygiene education and sanitation awareness. Recent studies by UNICEF and the Pakistan Council of Research in Water Resources suggest that it is important to screen sources for chemical contaminations such as arsenic and excessive fluorides. While chemical testing is usually required at the source on at least an annual basis, biological testing is required at least on a monthly basis and based on population size. Proximity to industrial and agricultural activity also warrants careful and regular monitoring of chemical contamination. Unfortunately, in Balochistan, as in the rest of the country, there is no systematic monitoring of quality unless there is an outbreak of disease.

3.115 Drinking water related diseases, categorized as water-borne, water-based, water-related, and water-scarce diseases, comprise almost 80 percent of the known diseases in the developing world. However, there is no coordination between health and water supply sectors to monitor these diseases in order to improve drinking water supply. As an example of co-relation, in. In Balochistan, the incidence of diarrhea among children is lower for households with access to piped drinking water and a toilet (Figure 3.40).

Figure 3.40: Improved drinking water and sanitation is associated with improved child health



Source: MICS 2003/04

Multiple Players, Little Empowerment

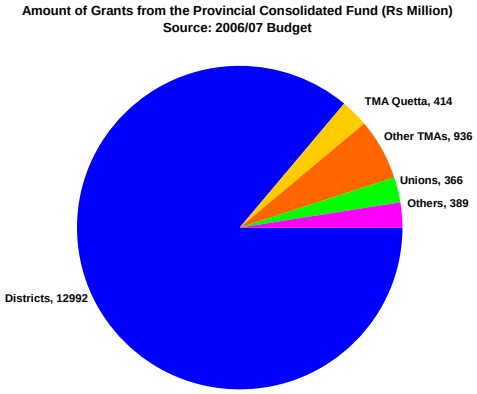
3.116 In view of Balochistan's vast landmass and scarce resources, delivery of adequate water and sanitation services is a challenge. However, problems are further compounded by the poor management of these scarce resources due to weak accountability between citizens, policy-makers, and service delivery staff. Like elsewhere in the country, there is a lack of clarity over responsibilities for delivery of water supply and sanitation service in the province. The 2001 Local Government Ordinance stipulates that the service delivery responsibility for water and sanitation should reside with the Tehsil Municipal Administrations (TMAs), with the exception of the city district of Quetta where this responsibility is devolved to the district government. As part of this reform, it was envisaged that the staff of the public health and engineering department be reassigned to the TMAs; a public health and engineering nucleus units be established at the district level for intra-district coordination of tehsil spatial plans; and provincial-level technical pools be set up to include expertise on water supply and sanitation previously available at the level

of chief and superintending engineers. These provisions are yet to be implemented, and the provincial department with offices in the districts remains responsible for planning and implementation of water and sanitation schemes. Similarly, the Quetta Water and Sanitation Agency continues to provide these services in the city as autonomous corporate entity. TMAs are endowed with only the staff of the erstwhile urban councils, whose capacity is limited to street sweeping and collection of domestic garbage to deliver it to the nearest collection point. Provincial agencies also implement federally financed vertical programs mostly related to drinking water and, to a lesser extent, drainage. These include the drought package, the Prime Minister's special drought package, the President's special project for Quetta water supply, and the Prime Minister's clean drinking water project. In addition, each member of the provincial assembly is provided with development funds, a considerable proportion of which is spent on water and sanitation schemes with little participation from the local government. Overall, the plethora of initiatives and unclear demarcation of roles and responsibilities have compromised the planning and implementation of water supply and sanitation services and wasted precious resources.

3.117 The jurisdictional confusion extends to the staffing of TMAs. Prior to devolution, only urban areas had the functional equivalent of TMAs, which were known as municipal and town committees. These were staffed by the local council service whose appointments were controlled by the local government board. Under devolution, these municipal bodies were merged into the new structure of TMAs, and the local council staff, who are now managed by the local government and rural development department, were allocated to the new posts created. As per the Local Government Ordinance, each TMA is to be staffed by 5 officers of grade 16 or above, namely one town municipal officer, and tehsil officers for finance, planning, regulation, and infrastructure. However, as there are many more TMAs than former municipal bodies, additional officers were posted by the services and general administration department. As a result, there are two different departments administrating senior staff in TMAs with little coordination between them.

3.118 Since the public health and engineering department was not devolved, there is also a serious shortage of technical staff in TMAs. According to a recent study of 14 TMA conducted under the ADB's devolved social services project, 50 percent of the posts for tehsil officers on finance, and over 70 percent of the posts for tehsil officers on regulation and for planning were vacant. TMAs are not only short of human but also of financial resources. They received only about 9 percent of the share of total transfers from the provincial consolidated fund in 2006/07 (Figure 3.41). This amounts to a per capita allocation of Rs173 as compared to Rs1670 for the district governments. TMAs also have few own source revenues. The urban immovable property tax is according to the Local Governance Ordinance supposed to be the main TMA tax source, but the provincial government has not transferred it to them. The TMAs end up spending the bulk of the finances on wages, leaving little for expanding service delivery and investment.

Figure 3.41: The TMAs receive only 9 percent of the budget of the provincial consolidated fund



Source: Budget 2006/07

3.119 The lack of devolution is worsened through weak community participation. Under the 1992 to 2000 Social Action Program, communities in Balochistan and the rest of the country were supposed to be an integral part of the identification, planning, and operation of water and sanitation schemes. According to official policy, new schemes were only be constructed by the public health and engineering, local and rural development departments if the beneficiary community agreed to take over and operate and maintain the scheme upon completion. And indeed, out of the 1856 schemes of the public health and engineering department, 1129 were transferred to beneficiary communities. Yet, a general lack of institutional support to communities doomed this initiative from the outset. In a reversal of the national policy, the provincial assembly recently decided to transfer these schemes back to the public health and engineering department.

Way Forward

Establishing Clear Institutional Arrangements

3.120 The provincial government needs to establish clear institutional arrangements for water supply and sanitation services. Ideally, the TMAs should be given the primary responsibility, in accordance with the provisions of the LGO. The role of the public health and engineering department should be limited to technical assistance; coordination between TMAs, districts, and the province; and monitoring and evaluation. Similarly, the role of Quetta Water and Sanitation Agency should be brought in accordance with the LGO. The services and general administration department has already drafted the amended rules of business to revise the role of the public health and engineering department in this fashion. However, the decision to return community schemes to the management of the public health and engineering department indicates a lack of political commitment to enforce the LGO.

3.121 Greater fiscal and administrative devolution is vital to make the devolution of functional responsibility effective. As discussed previously, local governments have little managerial authority over the staff assigned to them. The government could devolve appointment, promotion, and transfer powers of lower grades in the short term, and move towards establishing a local government service in the medium term. The government could also improve and expand the existing inter-governmental fiscal transfer system to provide TMAs with additional resources, including through the use of fiscal incentives, such as performance grants tied to improved service delivery.

Involving the Community

3.122 The province could consider piloting alternative service delivery models and innovative community-based systems for water and sanitation services. Communities require technical support to manage water systems, and resource support during economic downturns. In countries such as South Africa, Uganda, and India, local governments have entered into partnerships with communities to provide the institutional and financial support for expanding community-based systems. Pakistan's Lodhran Pilot Project (Box 3.13) is an example where communities and local government are jointly involved in the planning and design of the schemes, and share the responsibilities for operation and maintenance.

Improving Data for Policy Planning

3.123 There is no province-wide comprehensive database or information system, such as the management information systems in education and health. Regular institutionalized collection of information relating to all facets of service delivery, for both the public and private sectors, is an urgent requirement to improve planning. Once an accurate assessment of the status of these services is available, a medium and long-term vision for the sector can be developed. This vision should make explicit the linkages between water supply,

drainage, disposal of solid waste, and health outcomes, and be prepared in consultation with local governments and communities.

Box 3.13: The Lodhran Pilot Project

The Lodhran Pilot Project model is a bridging approach which helps to develop partnerships between TMAs, NGOs, and communities for provision of sanitation services. The Lodhran Pilot Project mobilizes communities for participation in the provision of these services. The nature of the cost sharing method is such that the community can contribute towards the cost of internal infrastructure by providing labor and material for its share of the sewerage system, and in turn benefit from the integrated sewerage system as a whole. The framework provides opportunities for communities, elected representatives, government employees and civil society organizations to participate.

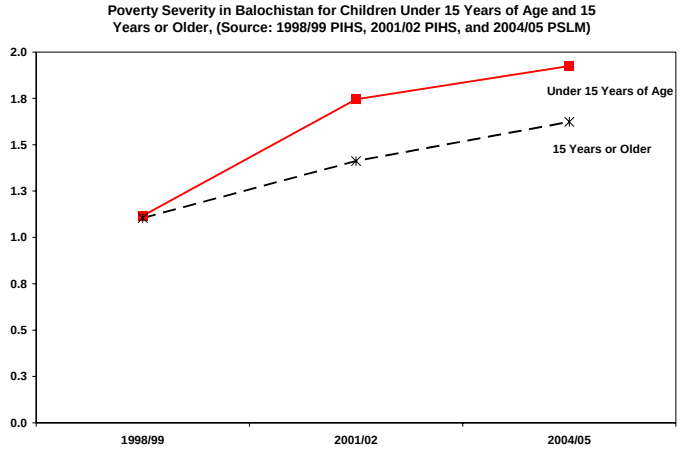
Under the Lodhran Pilot Project approach, the community itself manages the "external development" component which reduces the overhead costs through hiring contractors. It also improves the quality of construction work as community ownership of schemes is ensured through its active participation, leading subsequently to proper operation and maintenance after completion. The transparency of the whole process is ensured by the constitution of various sub-committees at the village level under a village level sanitation committee. These sub-committees keep an eye on purchases, construction quality and accounts. The approach is free of any bureaucratic hurdles and can respond rapidly to the basic sanitation needs of the community without much delay. The costs of hiring a large number of social organizers are avoided by involving the union council members and local level government functionaries in the social mobilization process. The Lodhran Pilot Project offers a policy framework which institutionalizes the execution and fiscal responsibility of communities for the consideration of provincial and district governments as well as international donor agencies.

3.6 ASSISTING POOR PEOPLE THROUGH CASH TRANSFERS

A Shallow Effort

3.124 Some groups are excluded from the benefits of economic developments. For example, the disabled, children (Figure 3.42), ethnic minorities, and refugees are often found to be vulnerable, as economic, social, cultural and institutional barriers result in low living standards. International experience suggests that social assistance payments can be one important way of helping poor people. However, finding a targeting mechanism compatible with the country's administrative capacity is difficult. In addition, designing cash transfers in a way that they ultimately support families to exit poverty is crucial. Social assistance programs play some role in helping households in Balochistan to deal with poverty, but their impact is diminished due to low coverage, poor targeting and poor implementation. The following discussion will concentrate on Pakistan's two major cash transfer programs for the poor.

Figure 3.42: Balochistan's children were poorer in the mid-2000s than in the late 1990s



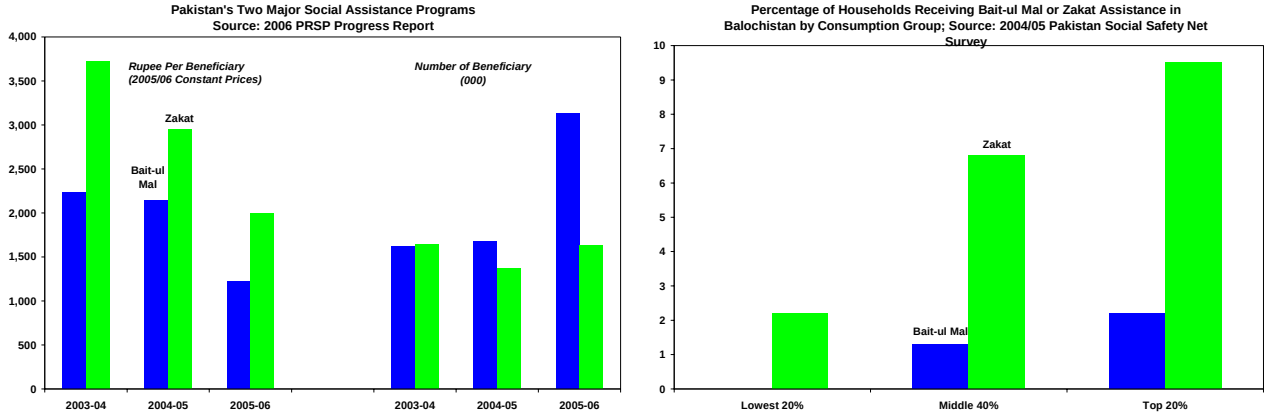
Source: PIHS 1998/99, 2001/02, and PSLM 2004/05

3.125 The Zakat program is entirely based on private contributions deducted through a special levy of 2.5 percent of the value of financial assets over a fixed threshold. Introduced in 1980, it seeks to provide income and other support to the *Mustahiqeen* (deserving needy) among the Muslims. The most important supports under the program are the subsistence (guzara) allowance and the rehabilitation grants for establishment of small businesses. The guzara allowance is a recurrent monthly transfer of, supposedly, Rs500 per household, but usually much less, while rehabilitation grants are one-time payments that can range from Rs10,000 to Rs30,000 per household. The Federal Ministry of Religious Affairs and the provincial Zakat and social welfare departments supervise and regulate the program under the guidance of the central Zakat Council. Voluntary Zakat committees at the local, district, and provincial levels implement the program and disburse the funds. There is no management information system and the system relies on paper records.

3.126 Bait-ul-Mal is a publicly funded and administered federal agency under the Ministry of Social Welfare and Special Education. Its cash transfer program, which was introduced in the early 1990s, seeks to help the poor and destitute, including groups not covered under the Zakat program. The most important programs are the food support program and the individual financial assistance. The first program pays twice a year cash transfers of Rs1,500 to beneficiaries, absorbing up to 80 percent of the resources; and the second program provides one-time financial assistance to beneficiary households in varying amounts.

3.127 The coverage of these programs in Balochistan is low, especially among the poor. Only some 8 percent of households benefited from Zakat or Bait-ul Mal according to a 2004/05 World Bank Social Safety Net Survey (Figure 3.43). The targeting performance of cash transfer programs is also poor, and worse in Balochistan than in the rest of the country. Two-thirds of cash transfer benefits go to households in the top quintile of the province. At the same time, the programs reject many applicants that are in genuine need; more than half of rejected applicants are in the poorest 40 percent of households. Furthermore, many deserving applicants in the lower income groups never apply, partly because they thought it would not be worthwhile. And among those who receive assistance, some find it comes with a price. One in four recipients of Zakat in Balochistan they often have to pay a bribe to receive payment.

Figure 3.43: Pakistan's social assistance is modest in amounts and small in reach



Source: PRSP Progress Report 2006, and Pakistan Social Safety Net Survey 2004/05

Way Forward

3.128 Effective social assistance programs, which complement other pro-poor policies such as health, education, micro finance, and rural infrastructure, can help making growth more sustainable and more equitable. Given Balochistan's high level of poverty and low penetration of formal labor markets, reforming the safety nets to help individuals exit poverty is an important priority. This involves scaling up and reforming cash transfer programs. Priority reforms include improving program coverage and outreach, developing targeting systems, and development of effective monitoring and evaluation systems.

Reforming Today's Programs

3.129 The coverage of Zakat and Bait-ul-Mal has to be expanded to turn them into effective tools for poverty alleviation. Within available budget envelops, such expansion has to come through improved administrative efficiency and greater focus on core mandates. While a variety of measure could be used to reduce leakages and improve governance, one core requirement is to put in place a database management system that keeps information on applicants, beneficiaries and payments. Any expansion of the funding of the programs should be contingent on improved targeting. International experience suggests that proxy means targeting could be one promising method. It sidesteps the need for measuring income – a lose concept in a highly informal economy like Pakistan – by determining household eligibility for benefit based on a set of individual or household characteristics that are robustly correlated with poverty.

Introducing New Programs

3.130 In view of the low benefit levels, another crucial reform is to raise benefits received by needy households. But instead of simply increasing entitlements, a better approach is to increase benefit through conditional cash transfers for families with children. Poverty in Balochistan has increased especially for children since the late 1990s. Targeted programs for poor households with children transfer income in cash on the basis of such observable criteria as attendance in school or participation in a health care program. They thus serve the dual objectives of poverty reduction and human development. Recently, Pakistan has began to experiment with such programs (Box 3.14).

Box 3.14: Piloting Conditional Cash Transfers in Pakistan

Pakistan is beginning to implement a new child support program. This conditional cash transfer for education is targeted to existing beneficiaries of Bait-ul Mal's food support program. The pilot will provide an additional benefit, over and above the regular food support program benefit, to existing beneficiaries provided their children of school-going age regularly attend school. Under the pilot, a family with one child aged 5-12 will receive additional Rs200 per month, while a family with two or more children between 5 and 12 years will receive additional Rs350 for as long as they keep all their children 5-12 enrolled in school and attending at least 85 percent of the time. Families with no children of school going age or whose children do not attend school will continue to receive the regular food support program benefits. The program has started as a pilot in selected during 2006/07. An impact evaluation, based on comparisons of outcomes with a control group, is planned. Depending on the outcome of this evaluation, the pilot could later be scaled up to cover the entire country.

PART 4: FINANCING DEVELOPMENT

4.1 OVERVIEW

4.1 Development is far more than resources, but there is no development without resources. Part II and Part III have highlighted large financing needs in the economic, rural, and social areas. This part looks the capacity of Balochistan's public sector to mobilize the funding and execute the programs to meet these needs. Since the beginning of this decade, public spending increased strongly, and budgetary resources are now in excess of the levels during the 1990s. Compared to the trough of 1996/97, Balochistan's per capita expenditures increased by 40 percent in real terms to Rs. 5,100 per capita in 2005/06. Development spending also rose sharply, especially once federal development spending is taken into account. Public spending rose in all provinces, but Balochistan's expenditure premium in per capita terms compared to the rest of the country remained. The chapter does not attempt to assess whether the excess spending relative to the other provinces is justified in terms of the differences in unit cost of service delivery and the scale of the development agenda. Instead, it points out five challenges in terms of leveraging these resources to the full advantage of Balochistan's prosperity (Table 4.1). The province has already made good progress in a number of these areas.

4.2 First, while higher revenues funded a part of the expenditure increases, Balochistan has run fiscal deficits since 2002/03 as the rise in expenditures exceeded the rise in revenues. The province failed to reign in spending as federal transfers declined due lower gas-related payments. Balochistan covered the shortfall mostly through expensive borrowing from the State Bank of Pakistan, which in turn compromised its public debt management strategy by increasing debt servicing costs. Fortunately, the province began in 2006/07 to take a number of bold steps to exit the fiscal crisis. The immediate priority remains to continue on this path.

4.3 Second, part of the fiscal strategy is to prioritize expenditures carefully. Part of this exercise involves looking at the sectoral allocation. Sectors like education, health and rural development, which are at the center of improving living standards for the bulk of the population, have benefited far less from the expenditure spree than sectors like transport and irrigation. Ensuring a close alignment of spending allocations with development priority is an important priority going forward.

4.4 Third, the rise in budget envelopes brings to the fore structural weaknesses in budget processes and public sector capacity that undermine the effectiveness of public spending. They include an oversized development portfolio with many new schemes and a large throwforward, low expenditures on operations and maintenance, and deficiencies in public financial management and procurement, often linked to poor infrastructure – only one of Balochistan's 29 districts has a district account office. With donor assistance, the government has begun to implement reforms in the core areas of the budget process as well as in the oversight areas of external audit and legislative scrutiny.

4.5 Fourth, Pakistan's devolution was launched with objective of improving service delivery through greater accountability of policymakers. Local governments encounter significant difficulties due to incomplete fiscal devolution, leading to sometimes visible tensions between district leaders and provincial politician. Much of the agenda for completing fiscal devolution rests with the provincial government. Balochistan has already announced, as Pakistan's first province, a three-year Provincial Finance Commission Award, and launched an innovative performance grants scheme to districts and tehsil municipal administrations. The province should build on these initiatives to expand the fiscal space of local governments for meeting local development priorities.

4.6 Fifth, careful expenditure management is one side of the coin. The other side is to increase provincial revenues. Transfers from the federal level have increased already through the 2006 amendment of the 1997 National Finance Award, as well as the rise in federal tax collection on the back of Pakistan's economic growth. In addition, as Balochistan's private sector expands with the ongoing uplift initiatives, the province has to continue improving its own-source collection. This will help to diversify Balochistan's revenue base and send a strong signal about its prudent fiscal policies.

Table 4.1: Instruments for Financing Development

	Investment	Innovation	Institutions
Public Expenditures	Review size and composition of provincial PSDP; Limit number of new schemes; Rationalize tubewell and wheat subsidy; Replace expensive with inexpensive loans	Leverage public-private partnerships	Improve output and outcome monitoring and evaluation
Own-Source Revenues	Mobilize revenues from four main provincial taxes (AIT, UIPT, MVT and stamp duties)	Encourage peer learning on UIPT and stamp duties from Sindh and Punjab and MVT from NWFP	
Financial Management			Pursue public financial management and procurement reform, including: set-up district account offices in all districts; set-up public procurement regulatory agency; and encourage public accounts committee to review audit reports on the basis of last-in-first-out
Fiscal Devolution	Give single-line transfers to districts, TMAs and unions	Scale up peformance grants to ensure alignment of local spending with provincial and national priorities	Devolve development budget under the PFC Award

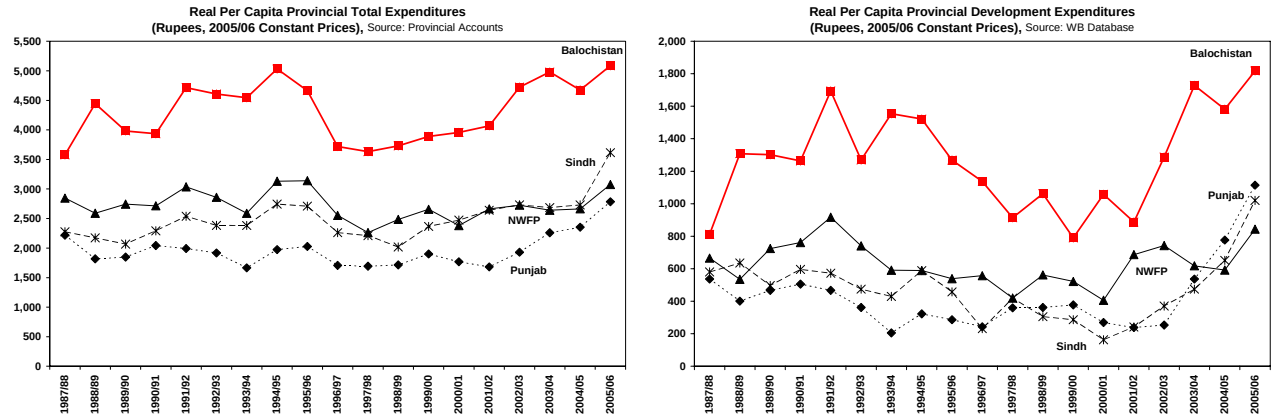
4.2 FISCAL RECOVERY

Spending Spree

4.7 Regional economic development depends, among other factors, on how key sectors are funded with public resources. Channelling government funds to disadvantaged regions, if done well, can be a powerful way of promoting convergence in living standards. Balochistan, with its underdeveloped private sector, is especially dependent on public investment. In this context, a first question is how Balochistan's per capita spending levels compare to those of Pakistan's other provinces. Do provinces, including districts, differ in the amounts of resources available per person for the delivery of public services? Figure 4.1 shows the real per capita expenditures and development expenditures by province. Two features stand out. First, since 1987/88, Balochistan is the province with the highest per capita expenditures. Throughout the period, Balochistan public spending is close to double the per capita spending of the other provinces. This should not be surprising as it reflects the higher unit cost of delivering public services. Remoteness and a scattered population increase transport and communication cost and reduce the economies of scale for public administrations.

4.8 Second, Balochistan's public expenditures increased to unprecedented levels over the last years. From 1987/88 to 1995/96, they averaged some Rs. 4,400 per capita in 2005/06 prices. From 1996/97 to 1999/2000, when Pakistan's overall fiscal stance deteriorated, Balochistan's spending dropped to Rs. 3,700 per capita. From 2000/01 to 2005/06, the provincial expenditures increased again to Rs. 4,600 per capita. Compared to the trough of 1996/97, Balochistan's per capita expenditures increased by 40 percent in real terms to Rs. 5,100 per capita in 2005/06. The spending spree is even more accentuated for development spending. It was as low as Rs. 800 per capita in 1999/2000, and shot up to Rs. 1,800 per capita by 2005/06. On average, Balochistan's development spending is about 200 percent higher than in the other provinces, although the gap as come down in the last few years.

Figure 4.1: Balochistan's public expenditures have increased in the last few years

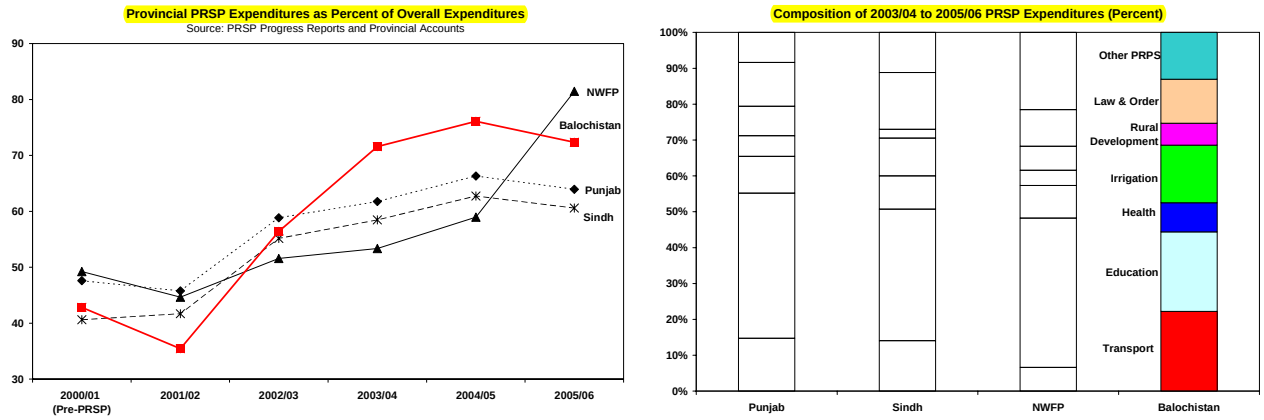


Sources: Provincial Accounts and World Bank Database

4.9 The expansion of the overall budget envelope translated into higher sectoral allocations. In this context, it is useful to focus on the 17 spending programs prioritized as part of Pakistan's poverty reduction strategy paper. Across all four provinces, spending on these sectors grew faster than on other programs. In Balochistan, their combined share out of total provincial expenditures increased from 37 percent in 2001/02 to 72 percent in 2005/06 (Figure 4.2, left panel). This indicates that the broad spending patterns have become more more-poor than in the early 2000s, although the share remained broadly constant since 2003/04. Within the PRSP envelope, we look at Balochistan's spending shares for the six main sectors,

which account for around 90 percent of the overall PRSP expenditures. The other provinces serve as a rough benchmark on whether Balochistan's sectoral public spending is too much, too little, or about right in view of its development priorities. Unsurprisingly, given its larger landmass, Balochistan spends more than the other provinces on transport. These expenditures can help to integrate Balochistan better internally and with its neighbors, although Chapter 2.6 found that some aspects of the transport program deserved closer scrutiny. Balochistan also expends the highest share on irrigation, mostly for the benefit of the expansion of the canal commanded areas as well as the tubewell subsidy. As argued in Chapter 2.10, these allocations benefit only a small part of Balochistan's farmers and agricultural land and contribute to unsustainable water management. In addition, Balochistan stands out as the province with the smallest PRSP shares for education, health and, along with Sindh, rural development (Figure 4.2, right panel). From the discussion of Chapter 3.3 and Chapter 3.4, these sectors would require greater attention in view of the low level of social indicators and the poor state of rural economies.

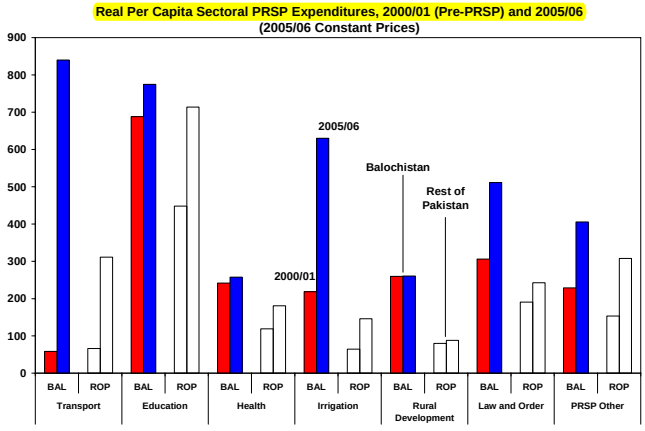
Figure 4.2: Balochistan's public spending has become more pro-poor, although some sectors have benefited more than others



Sources: PRSP Progress Reports and Provincial Accounts

4.10 Finally, we compare the change in real per capita sectoral expenditures from 2000/01, the last pre-PRSP year, to 2005/06 in Balochistan with the average of the three other provinces. The spending increases on transport and irrigation, as well as with law and order, were much larger than in the rest of Pakistan, while there were less for education, health and rural development (Figure 4.3). This confirms that Balochistan could consider shifting resources to these three sectors.

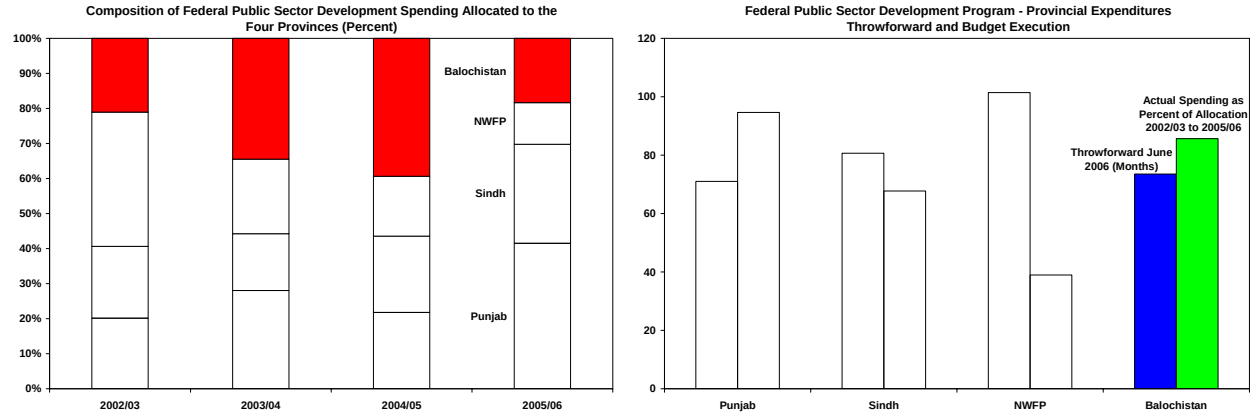
Figure 4.3: Real per capita development spending increased especially for transport, irrigation, and law and order



Source: PRSP Progress Reports

4.11 The analysis so far focused on provincial public expenditures. Yet, when the federal government executes projects and programs, it allocates resources also to particular regions and areas. Over the last five years, this program accounted for some three-fifths of the overall national development spending; and its seven main divisions (communications, ports and shipping, water and power, railway, education, health, and food and agriculture) comprised closed to 70 percent of the overall federal development spending. Drawing on the locality information given in the program and project names, we group the projects of these divisions according to the province in which they are executed, and thereby get a bottom-up estimate of the provincial distribution of the federal public sector development program. The left panel of Figure 4.4 shows the expenditure shares of the four provinces, leaving out any federal development projects that benefit more than one province or go to FATA, the Northern Areas, or AJK. From 2002/03 to 2005/06, Balochistan received on average a remarkable 28 percent, on par with Punjab, and more than Sindh and NWFP, which obtained 22 percent. In other words, since Balochistan's population share is far below the one of the other provinces, the federal development spending further accentuates the gap between Balochistan and the other provinces. For example, in 2005/06, Balochistan's federal and provincial development spending amounted to Rs. 3,300 per capita, compared to from 1,200 to 1,530 in the other three provinces (Figure 4.5). The federal development spending on Balochistan is not only large, but also executed as well as elsewhere. From 2002/03 to 2005/06, around five-sixth of the budget allocation were disbursed and the throwforward in June 2006, defined as the number of years to complete all ongoing projects within the current budget envelope, was 6.1 years (Figure 4.4, right panel). These indicators are better than those of Sindh and NWFP.

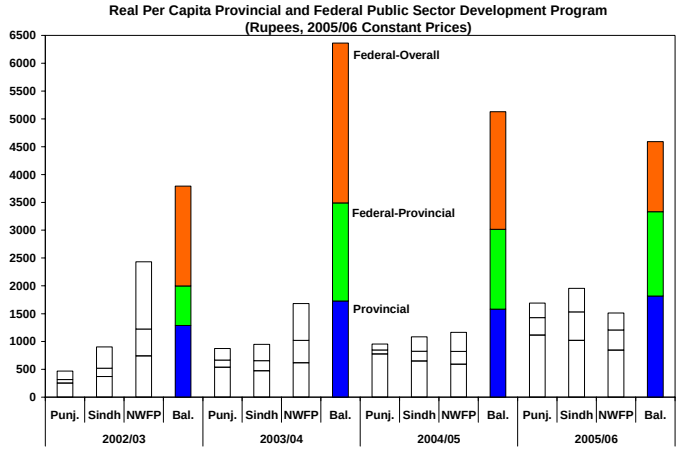
Figure 4.4: Balochistan's has a higher share in single-province projects of the federal public sector development program than NWFP and Sindh



Source: World Bank

4.12 This calculation did not take into account the three-fifths of federal development spending on projects that benefit more than one province. While the provincial allocation of this part is unknown, we can work out the distribution under the assumption that the provincial allocation of these projects is equal to the distribution of the single-province projects. If this was the case, then the overall federal and provincial per-capita spending would increase to around Rs. 4,600 in Balochistan, compared to only Rs. 1,700 in Punjab, Rs. 2,000 in Sindh, and 1,500 in NWFP.

Figure 4.5: The per capita development spending premium of Balochistan increased once federal development spending is taken into account

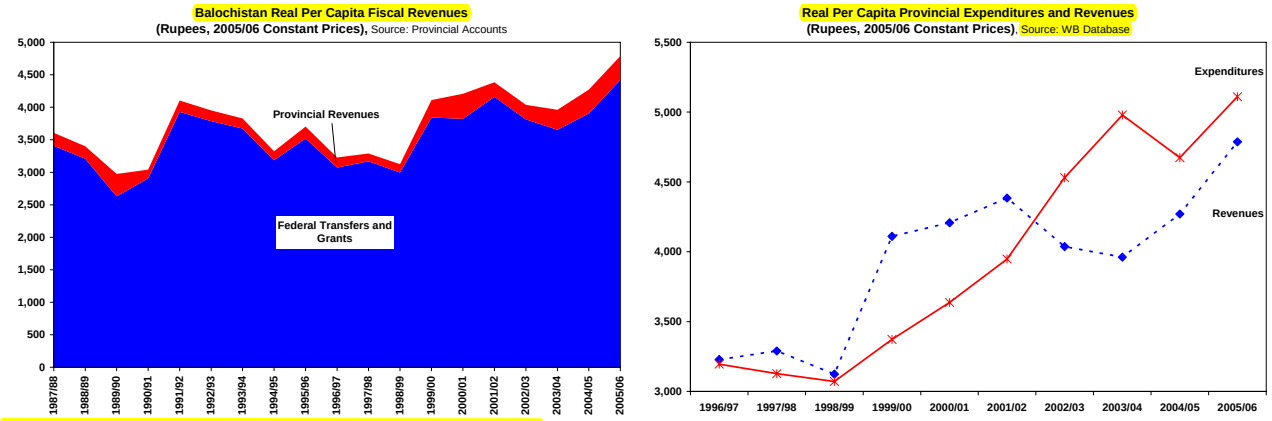


Source: World Bank

Debt Hangover

4.13 In view of low social and economic indicators, Balochistan's development needs loom large, as the previous chapters have highlighted. This would suggest the increase in public spending was a much overdue adjustment. Nonetheless, catering to these wants requires a careful assessment of the fiscal resources in the province. The dramatic increase in provincial spending raises the issue of fiscal sustainability. What allowed a resource-poor province like Balochistan to ratchet up expenditures by so much in such a short period of time? As Pakistan's least developed province, Balochistan's budget revenues depend on transfers and grants from the federal government. Since 1987/88, they amounted on average to 94 percent of the provincial revenues. Clearly, changes in these resource flows, such as through in federal revenue collections or the transfer formula of the National Finance Commission (NFC) Award can translate into large fluctuations of the provincial resource envelope. For example, provincial revenues dropped due to an unfavorable NFC Award and poor federal tax collection from Rs. 4,100 in 1991/92 to around Rs. 3,200 in the late 1990s (Figure 4.6, left panel). In the last few years, federal transfers grew with the expansion of the national economy, and own-source revenue collection improved thanks to the greater provincial collection efforts. By 2005/06, per capita revenues reached Rs. 4,800.

Figure 4.6: Balochistan's revenues increased at a slower pace than its spending

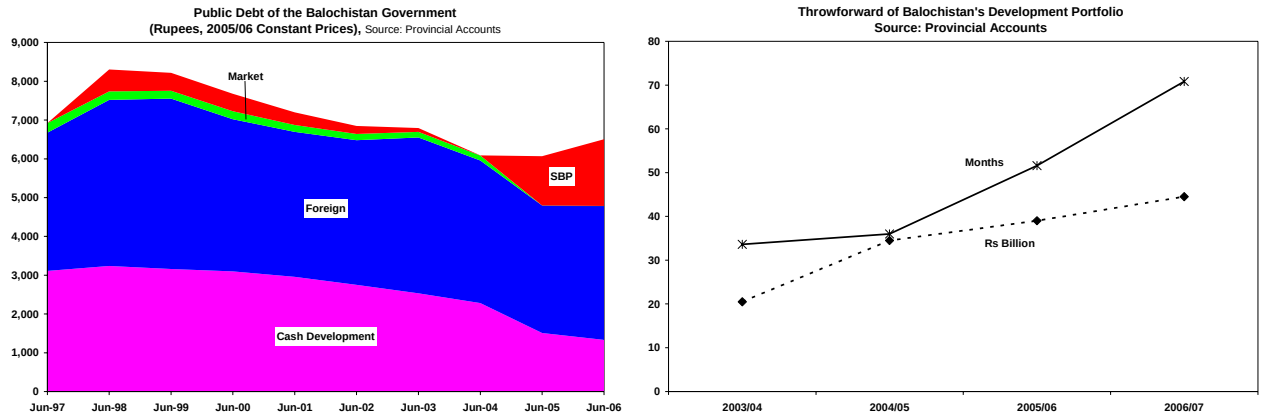


Source: Provincial Accounts and World Bank Database

4.14 Yet, the rise in revenues could not keep pace with the increase in expenditures, and Balochistan is today in the midst of a fiscal crisis. The consolidated provincial fiscal balance changed from surplus to deficit in 2002/03, which continues up to today (Figure 4.6, right panel). Until the early 2000s, the province absorbed revenue fluctuations through adjustments in expenditures. For example, the province reacted to the revenue crunch in the second half of the 1990s with tight expenditure management. Similarly, when revenues recovered from 1999/00 to 2001/02, the province prudently generated fiscal surpluses. By contrast, when provincial revenues declined from 2002/03 to 2003/04 due to a slowdown in federal transfers, the province increased provincial expenditure. The current crisis is so severe, because the revenue decline looks permanent. Balochistan's share in the population-based divisible pool is only 5 percent, even though the costs of service delivery are inflated as the cities and villages spread out over 45 percent of Pakistan's landmass. The provincial finances have been bolstered by the gas-related transfers, which comprised over half of the revenues in the mid-1990s. As the gas reserves in Balochistan are being fast depleted, as discussed in Chapter 2.2, these transfers have declined – in the absence of new major discoveries – irreversibly, and now contribute only one fifth of overall provincial revenue.

4.15 One implication of the crisis is that Balochistan's debt servicing costs increased. The average interest rate on public debt jumped from 4.5 percent in June 2005 to 6.3 percent in June 2006, and overall public debt increased from 2004 to 2006 (Figure 4.7, left panel). In principle, the province has endorsed a prudent debt management strategy centred on swapping high interest with low interest loans. For example, the share of the expensive federal cash development loans decreased from 45 percent of the overall debt burden in 1997/98 to about 21 percent in 2005/06, mostly due to a retirement of Rs. 4.1 billion cash development loans through a cheap ADB loan. Yet, during the recent fiscal crisis, the province covered the shortfall of revenues through the State Bank of Pakistan's (SBP's) ways and means advances, which are charged at market interest rates when they exceed the monthly limit of Rs. 1.7 billion. The provincial overdraft with SBP ballooned to Rs. 18 billion by November 2006, and the province is likely to make payments of Rs. 3.5 billion in 2006/07 for SBP debt servicing. As a result, the share of SBP borrowing in overall borrowing rose from naught in the late 1990s to around 26 percent to now. The reliance on the SBP block account has compromised the province's efforts of lowering its debt servicing burden. Fortunately, as we will discuss further below, Balochistan has already made good progress to exit the fiscal crisis.

Figure 4.7: Balochistan's public debt increased in the last two years, as did the throwforward of its development portfolio



Source: Provincial Accounts

From Spending to Outcomes

4.16 The fiscal crisis highlights how attempts to accelerate the pace of provincial development beyond the available resource envelope can prove detrimental. Moreover, expanding the development program

manifolds over a short period has brought to fore the inherent structural weaknesses in the development budget. First, from 2003/04 to 2005/06, the province supported some 3,346 development programs. This number of projects appears to be simply beyond the capacity of the provincial and districts departments to manage, supervise and monitor adequately.

4.17 Second, almost three-fifth (57 percent) of schemes included in the development budgets were new schemes, absorbing close to half (45 percent) of the development funds. In spite of the rise in the size of the development budget, development resources are spread thinly across programs resulting in delays of the completion of on-going schemes, cost overruns and erosions of economic and social returns. The approval of new project contributes also to large throw-forwards. For example, the 2005/06 provincial development program has a throw-forward of over Rs. 39 billion. Assuming that no additional new schemes are included in the future provincial development plans – unlikely in view of the economic and political pressures, it would take 4.3 years at the present level of allocation for the government to complete all on-going schemes (Figure 4.7, right panel). This leaves little room for the future governments to initiate new development programs, whatever their development urgency.

4.18 Third, the large increase in the development program comes at the expense of adequate operations and maintenance. Salaries, allowances and pensions, interest payments and subsidies absorb about 85 percent of the recurrent budget, and increase at a faster rate than the remaining part of the recurrent budget. Allocations for operations and maintenance expenditures get squeezed, leading to building-up of arrears on payment of utility bills and depreciation of public infrastructure and equipment, which in turn reduces the efficiency of public outlays.

4.19 These weaknesses in the provincial public sector development program are compounded by deficiencies in the overall financial management and accountability. The budgetary processes failed to deliver policy-makers timely signals about emerging fiscal crisis, and are fraught with inadequacies that reduce the development impact of public spending. The flaws in public financial management are related to Balochistan's stalled devolution and remoteness. There are no district accounts offices in all but one of the 29 districts of the province. In 28 districts, the district treasury officers carry out the payments, internal controls, accounting, and financial reporting functions, even though they lack the training to manage these functions effectively. The poor communication links between the provincial headquarter and the far-flung districts make it very difficult for the office of the accountant general, located in Quetta, to provide timely remedial support to the district treasuries. This bottleneck is compounded by the 'duality of control' issues associated with the administrative line reporting of the treasury officers to the finance department and functional reporting to the accountant general of the province. Unless a policy decision is taken to create a uniform reporting line for these offices, the problems associated with lack of clarity of responsibilities will persist.

4.20 These structural weaknesses in capacity are reflected in a number of shortcomings of the financial management and procurement system. First, 26 out of 29 district accounting offices operate manual accounting systems. Together with the weak training of treasury staff, this favors accounting errors and weak internal controls. The situation is even more concerning at the municipality levels, particularly outside the provincial headquarters, where only the most rudimentary systems of accounting and internal controls are used. Second, as most public spending arises through the public procurement of goods, works, and services, a well performing and transparent procurement system, which encourages a fair and open competition process, is crucial for effective public spending. While a procurement regulatory framework is in place, the procurement practices and complaints-redressal mechanisms fall short of international standard practices. Even though a draft bill to create a public procurement regulatory authority has been prepared, there is no timetable for this approval and implementation of the act.

4.21 Third, in-year civil accounts take about 15 to 30 days to prepare and submit to the finance department. There is no formal provision of in-year budget execution reports to line departments or agencies at the provincial, district, of municipality levels, although the accountant general at the provincial level and account officers or treasury officers at the district level provide summary actual expenditures for functions and sub-functions. The reconciliation of these data with the records kept by line departments raises concerns about the reliability of the financial and fiscal information. The performance is mixed regarding the year-end financial statements. The provincial financial accounts are prepared and submitted for audit typically within 10 months of the end of the fiscal year; the district financial statements take 12 months to be submitted. The quality of the financial statements falls short of international standards due to lack of disclosures and information on the overall financial and fiscal situation of the province. This weakens the province's capacity to accurately determine its aggregate fiscal risk arising from explicit and implicit contingent liabilities. While the provincial government prepares both the finance and the appropriation accounts, the district governments prepare only the finance accounts. Like in Pakistan's other provinces, this violates the requirement of the 2003 Local Government Ordinance.

4.22 Fourth, as part of the devolution, the province established in 2004 a district audit formation to take over the responsibility for the audit of the district accounts from the provincial audit directorate. Since then, the provincial audit directorate audits the finance and appropriation accounts of the provincial government only, while the 29 district audit directorate audits the district accounts. The local fund audits are in charge of the audits of municipalities. Yet, there is a wide-spread dearth of qualified and motivated auditors at the provincial and - even more so - at the district and municipal level in Balochistan. Staff often lacks the capacity to apply modern audit tools and to complete the audits within no more than one year. While the provincial audit for 2004/05 has been completed, the legislature has yet to receive the audit report for approval. The audit for 2005/06 is in progress but its completion will most likely also be delayed. Another issue is how to motivate the line departments and agencies to hold regular departmental accounts committee meetings to review and settle 'advance' audit paragraphs before they are converted into draft paragraphs for inclusion in final audit reports.

4.23 Fifth, scrutinizing and reviewing the audited accounts and audit reports of the government and taking the necessary remedial action against the executive is one greatest pillar of accountability that needs exercising by the legislative organs of government. The provincial assembly established in 2004 a public accounts committee. It is charged with the mandate to scrutinize the public accounts on the basis of audited accounts and audit reports presented by the office of auditor general of Pakistan, and recommend, if any, punitive actions or other remedial measures to be taken by the executive. The committee has been meeting irregularly but its deliberations tend to be extensive. It is currently reviewing the report and accounts for 2000/01 but has yet to publish a report or submit one to the provincial assembly. Overall, over 14 years of backlog of reviews of audit reports and audited accounts remain outstanding. This delay diminishes the effectiveness of the committee, in addition to a lack of adequate enforcement arrangements for its recommendations. The Zila accounts committees, the local government equivalent of the provincial public accounts committees, have yet to start functioning in conformance with the Balochistan Local Government Ordinance.

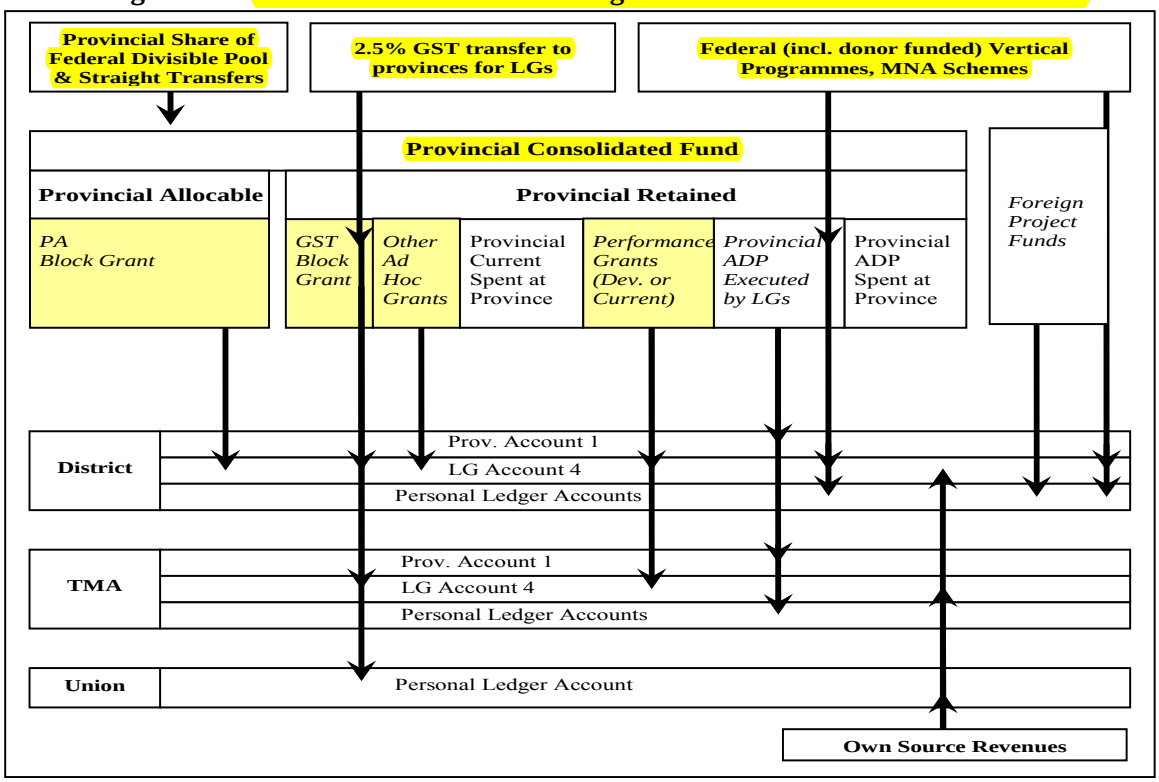
Incomplete Fiscal Devolution

4.24 Just as Balochistan is heavily dependent on transfers from the federal government, Balochistan's districts, tehsils and unions are heavily dependent on transfers from the provincial and federal government. The structure of inter-governmental fiscal relations in Balochistan is complex (Figure 4.8). While local governments receive a variety of funds, their discretion to respond to local needs remains restricted.

4.25 The most important revenue source is the *provincial allocable* part of the provincial consolidated fund which consists of the provincial share in the federal divisible pool, straight transfers from the federal

government (e.g. gas royalties), the 2.5 percent share of the general sales tax, foreign assistance through program aid, and provincial own revenues. The Provincial Finance Commission Award determines the share of the provincial consolidated fund that is transferred as block grant to the district account 4. After a series of one-year interim awards from 2002/03 to 2004/05, Balochistan announced as the first province in Pakistan in 2005/06 a three-year award. The share of the provincial allocable was calculated with the budget estimates for 2004/05 as a benchmark, adjusted for federally legislated salary increases. This has given district governments a medium-term outlook for its budget process. However, while the other provinces transfer the provincial allocable for the three heading (salary, other recurrent, and development), Balochistan determines the allocation of district development funds at the provincial level. Instead, the province transferred until recently salary funds as per sanctioned rather than filled posts. This allowed districts to use any savings from staff vacancies for the funding of development schemes. In practice, however, these savings were minor and could fund only small-scale development work. In any case, Balochistan now transfers salary funds on the basis of actual staff strength, in line with the practice of the other provinces, but remains the only province that has not devolved the development expenditures.

Figure 4.8: The structure of fiscal inter-governmental relations in Balochistan



Source: World Bank

4.26 The second most important revenue source is the 2.5 percent of the general sales tax which the federal government hands to the province for onward transfer to local governments. While the provincial allocable accrues only to the districts, this block grant benefits the lower levels as well. These funds are distributed in the proportion of 40 percent, 25 percent, and 35 percent to districts, tehsil municipal administrations, and unions, respectively. In addition, since 2003/04, particularly needy districts may receive small grants for operations and maintenance of water supply and sanitation, and road maintenance.

4.27 In 2006/07, Balochistan introduced an additional innovative funding component for local governments. The provincial government has set aside $20 million from the Balochistan Resource Management Program to launch a performance-based transfer mechanism for local governments. This

innovation creates incentives for local service delivery with better targeting, efficiency, transparency, and sustainability. These grants reward local governments for the implementation of provincial priorities and sectoral targets; good financial management and fiscal performance; and capacity building initiatives. There are two types of grants in four windows. The district governments and tehsil municipal administrations can use non-matching performance grants at their own discretion for municipal infrastructure development and local service delivery. Special purpose grants, some of which may require co-funding from local governments, are used to national and provincial policy objectives as spelled out in the poverty reduction strategies, as well as for capacity building. The provincial government signs a term of partnership with each participating district Government and tehsil municipal administration, which lays down the responsibility of each government and administration; identifies the monitoring and evaluation indicators; and defines the monitoring framework used by the provincial government (Table 4.2). The performance grant system is a welcome source of additional financing for local governments. The framework of access and continuation criteria, if rigorously applied and monitored, will help ensure that local governments establish basic systems and improve their adherence to the legal framework.

Table 4.2: Eligibility Criteria for Balochistan's Local Government Performance Grants

Access Criteria	• Monitoring and House Committees set-up and functioning (S. 138). • Executive Committee set-up and functioning • Complaints Cell Set Up • CCB: Funds earmarked in successive annual budgets • Byelaws of Zila and Tehsil/Town Councils approved and implemented • Suitably resourced Zila and Tehsil Council Secretariats operationalized • Internal audit office set up • Offices arranged according to District Government Rules of Business. • Functioning Zila Mushawirat Committees (ZMCs) • Procedures to ensure transparency in place. • Preparation of monthly and annual accounts and display at a conspicuous place for public information • Public Hearing by the Accounts Committee on objections to the statement of accounts • Information about staffing and performance to be displayed at a prominent place • Public Hearing by the Accounts Committee on internal and external audit reports • Annual Stock taking of LG Property by the Zila/Tehsil Nazim • Preparation and approval of budgets according to Law and Rules. • Inspection of Offices by the EDO. • Periodical Report from Group of Offices for the Zila Nazim. • Performance Evaluation Reports or ACRs.
Continuation Criteria	• Staff turnover, postings, transfers according to tenure. • Performance reports prepared and annual report published. • A summarized version of budgets and financial statements made available for public information.

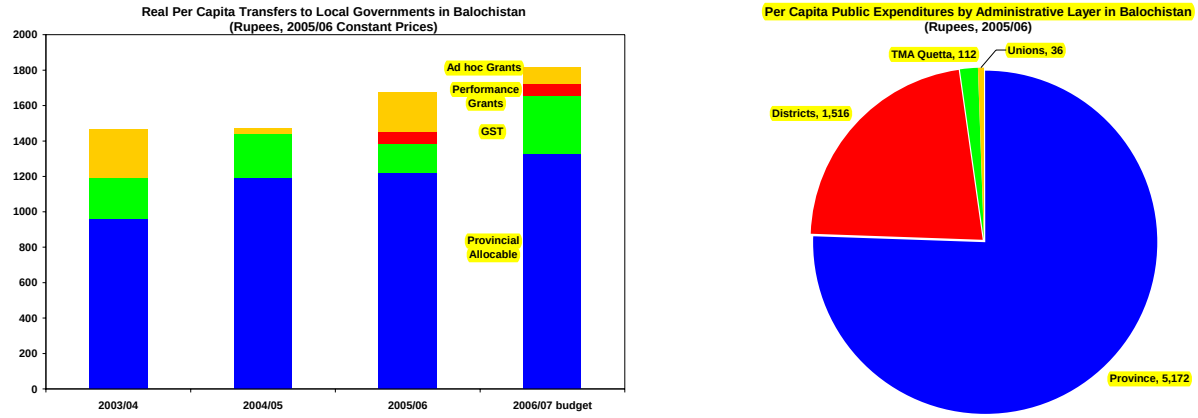
Source: Asian Development Bank

4.28 Beyond these funding sources for locally designed projects and programs, local administrations also execute provincial account 1 resources for provincial development schemes. The districts execute the bulk of the provincial roads, education, health, and water schemes. The respective officers of the relevant departments implement these projects without any major involvement of the district political leadership. Similarly, there are a host of federal and provincial vertical programs, such as the Khushal Pakistan fund, the President's fund, the Prime Minister's package, the Governor's fund, the Chief Minister's fund, the Member of National Assembly's fund and the Member of Provincial Assembly's fund. These programs are usually administered by the concerned local officers, often through personal ledger accounts held outside the provincial treasury. For example, each district received in 2005/06 a Rs. 100 million grant from the

Khushal Pakistan fund for specified activities through a separate account maintained by the district chief officer. While these projects and programs channel much needed funds to local areas, they undermine local accountability, as the bulk of the district development spending remains outside the purview of local politicians, and senior local staff stays report foremost to the province.

4.29 A look at the public finances confirms the lack of fiscal space for local governments. Overall provincial transfers into account 4 have increased annually by 17 percent in nominal terms from 2003/04 to 2006/07 (budget). The rise reflects provincial revenue growth, especially from the divisible pool; a higher share of the provincial allocable in the 2005/06 Provincial Finance Award; and the introduction of performance grants in 2005/06. However, these funds remain low relative to provincial expenditures, and are often barely sufficient to cover the wage bill (Figure 4.9). For example, districts and tehsil municipal administrations received per capita transfers of Rs. 1516 and Rs. 112, respectively, compared to Rs. 5172 per capita provincial expenditures.

Figure 4.9: While transfers to local government have increased, the bulk of the resources remains at the province level



Source: World Bank

4.30 Way Forward-received per capita transfers of Rs. 1516 and Rs. 112, respectively, compared to Rs. 5172 per capita provincial expenditures.

Way Forward

4.31 The Balochistan government has already taken bold measures to exit the fiscal crisis. Four initiatives stand out, supported by the Balochistan Resource Management Program (Box 4.1) and the Project for the Improvement of Financial Reporting and Auditing:

- The 2006/07 public sector development program included no new scheme, and non-priority expenditures and interest payments are capped.
- Balochistan is making strides for improving the effectiveness of public expenditure through modernizing budgetary processes and procedures, improving financial management and undertaking procurement reforms.
- Devolution is strengthened through performance-based conditional grants for the district governments and tehsil municipal administrations.
- The province is pursuing efforts to enhance its own-source revenues.

Box 4.1: The Balochistan Resource Management Program

The Balochistan Resource Management Program (BRMP) aims to provide fiscal space for sustainable development, improve the allocation and monitoring mechanisms for effective and transparent utilization of funds; and to create enabling environment and supporting institutions for effective public service delivery, sustainable water management and private sector development. The program activities encompass seven thematic areas mentioned below:

1. Rationalize poorly designed, untargeted subsidies
2. Broaden the tax base, expand coverage and rationalize user charges
3. Establish reliable, transparent and accountable financial management systems
4. Establish and implement transparent, rule-based systems of local government funding
5. Improve administrative frameworks for effective public service delivery
6. Create enabling environment for private sector development and promote Public Private Partnership in service delivery
7. Improve management and sustainability of water resources.

BRMP comprises two program loans. The main loan of $110 million is for retiring cash development loans, while the second loan of $20 million is for performance grants to districts governments. The reforms agreed between ADB and the provincial government will be implemented through a technical assistance loan and a grant from the Dutch Government. The grant is to be used to improve management and sustainability of water resources.

Source: ADB

4.32 These efforts are steps in the right direction and are will improve future finances. However, the fiscal crisis is today's reality where the province is facing cash flow problems even to meet its day to day activities. In the immediate future, improvements in the fiscal debt situation and a track record of effective expenditure management have to take precedent over an expansion of the provincial budget development envelope. The re-designing of ongoing schemes in the public sector development programs has diluted the bold stance on not approving any new projects. A thorough review of the size and composition of the public sector development program is warranted. In addition, the provincial government should encourage its own departments to shift their focus from inputs to outputs and outcomes, in the same way as it attempts to enhance the expenditure effectiveness of local governments.

Controlling Provincial Spending

4.33 In the short-run, there is no option but to reign in spending in order to avoid a further build-up of expensive SBP borrowing. The starting point is an affordable provincial public sector development program. The province has already taken the bold step and reduced the size of the 2006/07 provincial public sector development program in nominal terms compared to the last three years. More importantly, apart from the block allocation for the poverty reduction program, there are no new development schemes. This is a substantial achievement, especially in view of the forthcoming elections, and sends the clear message of the provincial government's resolve to put its fiscal house in order. Nevertheless, this accomplishment is somewhat diminished as the throw-forward of the development portfolio increased to Rs44 billion or 6.3 years. While this in part explained by inflation, it also reflects the expansion in the scope of on-going schemes.

4.34 The priority for recurrent spending is to lower the fiscal burden of subsidies. This involves improvements in the targeting of the food subsidy, especially for wheat flour, to allow costs savings. In addition, as discussed in Chapter 10 of Part II, the province has to follow through with the rationalization of the tubewell subsidy. Balochistan has already done well in keeping its establishment budget under control,

in spite of federally legislated salary increases. These efforts need to continue and strengthened by filling only the most critical staff vacancies.

4.35 The province should continue its efforts to swap expensive with inexpensive debt to cut down on debt service spending. During the current fiscal year, Balochistan used soft loans from the ADB's devolved social services program and Balochistan resource management program to repay some Rs9 billion of the federal cash development loans. The province should continue this strategy with the additional instalments and loans from donors.

Strengthening Public Financial Management

4.36 Raising the quality of public spending requires a host of cross-cutting changes in public financial management and procurement practices. Balochistan is committed to such reforms. Along with the federal government and the other provinces, it has launched a World Bank financed project for the improvement of financial reporting and auditing. The project covers budget preparation, accounting and payment processing, in-year and year-end financial reporting, and external audit. The province has already progressed well in selected areas. For example, it commenced the preparation of its budget in 2005/06 on the basis of the new chart of accounts consistent with international standards introduced as part of the new accounting model. The provincial and district governments have all transitioned to the use of the new chart for their budget preparation and compilation. In addition, the province has also decided to phase in a medium-term budget framework in order to give budget planning a longer-term outlook. This should also improve the link from budgetary allocation to sectoral outputs and outcomes, as well as from fiscal policies to provincial development objectives. Furthermore, as Pakistan is progressively implementing a new risk-based audit methodology, the quality and timeliness of Balochistan's audits is likely to improve significantly in the coming years. Finally, in view of the large back-log, the public accounts committee could adopt a strategy of reviewing the audit reports and audited accounts on the basis of a last-in-first-out. Equally, district governments and tehsil municipal administrations should make operational the social accountability arrangements stipulated in the Local Government ordinance.

Furthering Fiscal Devolution

4.37 Providing local governments with greater expenditure autonomy needs to be a medium term objective of the provincial government. Until last year, Balochistan was Pakistan's only province that devolved the salary budget to district governments. Since information flows slowly from the far-flung corners of the province to Quetta, this helped to pay the salaries of district government employees in timely payment and to enhance the autonomy of districts governments. It also gave the local governments incentives for the prudent recruitment of staff. By contrast, the provincial government to this date finances and implements all development schemes. District governments could only undertake some development activities from savings in recurrent budgets. These arrangements are inconsistent with the established financial rules. Realizing the need for more comprehensive fiscal devolution, the provincial government is considering transferring some development funds to the district governments through a formula under the Provincial Finance Award. This would be a step in right direction in terms of supporting government's devolution plan, especially as salary funds are now transferred on the basis of actual staffing.

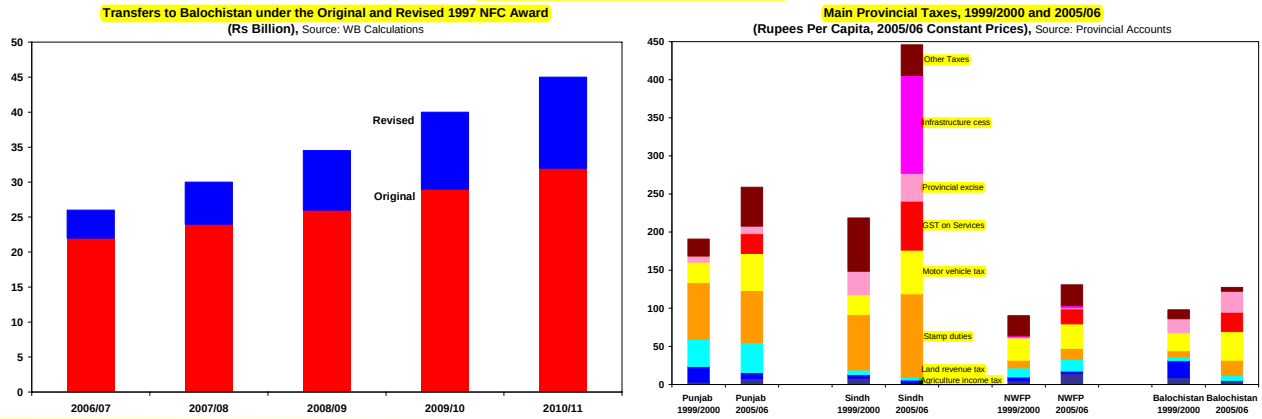
4.38 In addition, it will be important that tehsil municipal administrations and unions also receive grants from the provincial allocable amount. Such transfers should be 'single-line', giving local governments discretion on allocating resources across salary, development, and non-salary recurrent expenditures. This arrangement would mirror the framework for the transfers from the federal divisible pool to the provinces. With such additional block grants, the performance grant system could become a more effective tool for aligning local spending with provincial and national priorities.

Enhancing Fiscal Resources

4.39 The 2006 amendment of the 1997 NFC Award presents the provincial government with a good opportunity to strengthen its fiscal stance. The largest revenue source for all provinces is the divisible pool, which comprised in 2006/07 around 45 percent of the taxes collected by CBR and is distributed on the basis of population. Straight transfers, which cover royalties and development surcharges on oil, gas and hydroelectricity and are allocated on derivation basis, are important for Balochistan and Sindh. Subventions on account of remoteness and backwardness boost the transfers for Balochistan and NWFP. The amendment increased the share of provinces in the divisible pool of revenues, and increased the size of federal subvention to the provinces. Overall, Balochistan is likely to receive Rs. 166 billion in the next five years under the amended Award – about Rs39 billion more than what it would have received under the original Award (Figure 4.10, left panel). The windfall of almost Rs. 8 billion per year can help the province to pull itself out of the present fiscal crisis. Nonetheless, this requires much more prudent management of provincial finances, as the additional resources are not sufficient to cover the level of the current fiscal deficit of Rs. 17 billion.

4.40 The province should also continue its efforts in generating own-source revenues. Demonstrating a resolve in tax collection strengthens the provincial government's hand in discussions with the federal government and donors, and, over the medium term, may well create an important source of funding. Indeed, the share of own-source revenues in overall revenues increased already to 8 percent in the last three years, about 2 percent above the long-term average. Non-tax income source include dividend payments from the stakes held in mining companies, as discussed in Chapter 1 of Part II. Tax revenues draw mostly on agricultural income, capital gains on physical assets, the consumption of services, and urban property, which are constitutionally exclusively provincial tax bases. Yet, almost no tax is imposed on the first two bases, little is mobilized from wholesale, retail, and transport, and the housing market boom in Gwadar and other urban centers over the last few years appears to have bypassed completely the subnational exchequers. The province can raise more revenue especially from the four main provincial taxes: agricultural income tax, urban immoveable property tax, motor vehicle tax and stamp duties. As part of the Balochistan Resource Mobilization Program, the province has already started to look at the potential of enhancing revenue from these taxes. On the bases of new studies, the provincial government intends to revamp its revenue system so as to facilitate tax payers and enhance tax collection. In addition, peer learning from other provinces could help to make some headway. While none of the provinces excels in raising own-source revenues, some do better than Balochistan (Figure 4.10, right panel). In particular, the province could draw lessons from the reforms on urban immoveable property tax and stamp duties in Sindh and Punjab and the motor vehicle tax in NWFP, and adopt them to local ground realities.

Figure 4.10: Balochistan's tax collection effort looks fable, but more resources are forthcoming through the NFC Award.



Sources: Provincial Accounts and World Bank Database

Leveraging Public-Private Partnerships

4.41 However effective the Government of Balochistan may be in terms of mobilizing own-source revenues and financial support from the federal government and donors, the result will not match the scale of Balochistan's development needs. Given the enormity of the task, the provincial government has to strive hard to bring in the depth of talent and expertise from the private sector to share the burden of the provincial development agenda.

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