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ABBREVIATIONS AND ACRONYMS

AASHTO	American Association of State Highway & Transportation Officials
ADB	Asian Development Bank
ADT	Annual Daily Traffic
AGS	Afghanistan Geological Survey
ARI	Acute Respiratory-tract Infections
ARDS	Afghanistan Reconstruction & Development Services
ARTF	Afghanistan Reconstruction Trust Fund
ASYCUDA	Automated System for Customs Data
BGS	British Geological Survey
BHS	Basic Health Centers
BOT	Build Operate Transfer
BPHS	Basic Package of Health Services
BRT	Business Receipts Tax
CFO	Chief Financial Officer
CGHN	Consultative Group for Health and Nutrition
CG-TS	Consultative Group for the Transportation Sector
CHCs	Comprehensive Health Centers
CHFs	Community Health Funds
CHWs	Community health workers
DABM	Da Afghanistan Breshna Moasessa
DED	District of Education Department
DFID	Department for International Development
EC	European Commission
EMIS	Education Management Information System
ERE	Engineering Research Enterprise
IARCSC	Independent Administration Reform & Civil Service Commission
EPC	Engineering, Procurement & Construction
EPHS	Essential Package of Hospital Services
ERO	Economic Restructuring Office
IDA	International Development Association
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
GoA	Government of Afghanistan
GCMU	Grants and Contracts Management Unit
GDP	Gross Domestic Product
HIPC	Heavily Indebted Poor Countries
HMIS	Health Management Information System
HNI	HealthNet International
JHU	Johns Hopkins University
IMR	Infant Mortality Rate
IT	Information Technology
LAN	Local area network
MACA	UN Mine Action Centre for Afghanistan
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MICS	Multiple Indicator Survey
MMI	Ministry of Mines and Industry
MMR	Maternal mortality ratio
MoC	Ministry of Commerce
MoD	Ministry of Defense
MoE	Ministry of Education
MoEW	Ministry of Energy and Water
MoF	Ministry of Finance
MoHE	Ministry of Higher Education
MoJ	Ministry of Justice
MoPH	Ministry of Public Health
MoPH-SM	MoPH-Strengthening Mechanism
MPW	Ministry of Public Works
MRRD	Ministry of Rural Rehabilitation & Development
NDF	National Development Framework
NEEPRA	Nat'l Emergency Employment Program for Rural Access
NGOs	Non-government Organizations
NHFPA	National health facility performance
NSP	National Solidarity Program
NRVA	National Risk and Vulnerability Assessment
NTS	Northern Transmission System
O&M	Operation and Maintenance
OECD	Organization for Economic Cooperation and Development
OoM	Office of the Minister
PAREM	Public Administration Reform & Economic Mgt
PCU	Power Construction Unit
PED	Provincial Education Department
PFEM	Public Finance and Expenditure Management Law
PFM	Public Finance Management
PHD	Provincial health director
PIP	Public Investment Programme
PPAs	Performance-based Partnership Agreements
PISU	Project Implementation Support Unit
PIUs	Project Implementation Units
PRR	Priority Restructuring and Reform
PTAs	Parent Teacher Associations
QEITs	Qualified Extractive Industry Taxpayers
RBUs	Regional Business Units
SAF	Securing Afghanistan's Future
SMCs	School Management Committees
SCU	Spinghar Construction Unit
SOE	State Owned Enterprises
SWAp	Sector-wide Approach
TA	Technical Assistance
TAFSU	Technical Assistance and Feasibility Study Unit
TB	Tuberculosis
TEB	Teacher Education Program
TIN	Taxpayer Identification Number
TSA	Treasury Single Account
TSR	Transport Sector Review
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
UNOPS	United Nations Office for Project Services
USGS	US Geological Survey
USTDA	US Trade & Development Agency
WAPECA	Water & Power Engineering Consultancy Authority
WFP	World Food Program
WHO	World Health Organization

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ACKNOWLEDGEMENTS

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CHAPTER 1. HEALTH SECTOR

Executive Summary

i. The health of the Afghan population is poor and the country is decades behind its South Asian neighbors in terms of the under-five mortality rate (257/1000 vs. 93/1000 live births, i.e. 2.8 times higher) and the total fertility rate (6.8 live births per woman vs. 3.3). There are also very serious inequities between the urban and rural areas in terms of outcomes, coverage of services, and availability of health sector inputs. The maternal mortality ratio is 15 times higher in Badakshan than it is in Kabul, immunization coverage is three times higher in urban areas than in rural areas, and 42% of the entire Ministry of Public Health (MoPH) staff work in the hospitals of Kabul.

ii. Until the end of 2003, the performance of the public health system was generally poor (e.g. only 8% of women received prenatal care), with the exception of mass vaccination campaigns which achieved high coverage. Since the beginning of 2004, there appears to have been a very significant increase in service delivery, about 90% of it provided by NGOs. MoPH has made more progress than most other ministries in reforming itself and has also enjoyed a stable policy environment. This has allowed a consistent focus on the Millennium Development Goals and making progress in primary health care. Thus far, public spending has been well aligned with this strategy, with the Basic Package of Health Services (BPHS) being the main priority. This strategy is appropriate for reaching the poor. However, serious issues remain, including inadequate quality of care and gaps in the coverage of the BPHS.

iii. Based on actual expenditures, it appears that delivering the BPHS costs about $3.50 per capita per year. Together with reasonable recurrent hospital expenditures, the Government should aim to spend about $5.80 per capita per year or about $140 million annually. This will require external assistance for the near future but should be affordable by the Government in the medium term with reasonable GDP growth, adequate revenue collection, and an increase in expenditure to about 1.5% of GDP, in keeping with levels seen in other low income countries.

iv. In order to address the gross inequities and improve service delivery everywhere, this chapter also recommends that: (i) MoPH should continue to focus on the BPHS and strive to ensure universal access to these basic services; (ii) MoPH needs to continue to partner with NGOs based on transparent assessment of the results achieved, and should be similarly empirical about expanding the MoPH-Strengthening Mechanism; (iii) the Government should carefully monitor a small set of key indicators, including coverage and quality of care, as a central function of the MoPH; (iv) the Government can carefully expand the BPHS based on explicit criteria of costs and benefits; and (v) vertical programs should support the implementation of the BPHS.

v. The greatest threat to financial sustainability in the sector is unconstrained growth in the public hospital sector with associated large recurrent costs. The Government should keep hospital expenditures below 40% of the total health care budget, requiring: (i) limiting the number of new public hospitals that are built (even with donor funds), particularly in large urban areas; (ii) ensuring that the donors financing hospitals help meet the recurrent costs of the hospital they finance for at least the first 5-10 years; and (iii) encouraging growth of private sector hospitals in the large urban centers. Care should also be taken in greatly expanding the number of Basic Health Centers (BHCs) and Comprehensive Health Centers (CHCs) so as not to incur unreasonable recurrent costs. Channeling funds through the Government will reduce uncertainties in funding, enhance the coherence of the policy framework, economize on costs (if appropriately competitive procedures are used), and ensure that MoPH maintains stewardship of the sector.

A. Current Health Status

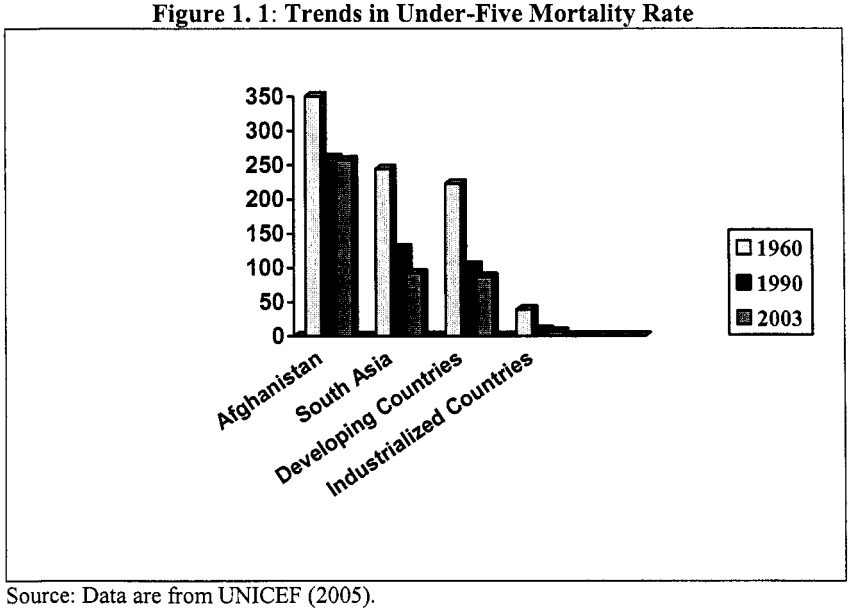
1.1 ***Poor Child Health Outcomes.*** The health status of the approximately 24 million Afghans, particularly women and children, remains among the worst in the world. The under five mortality rate (U5MR) in 2003 was 257 deaths per thousand live births (see Table 1.1), meaning that a quarter of children born do not reach their fifth birthday. This needs to be seen in the context of Afghanistan's history. As can be appreciated from Figure 1.1, under-five mortality rates in the country have always been very high compared to its South Asian neighbors and developing countries as a whole. A quarter century of war has exacerbated the situation and has left Afghanistan about 40 years behind the rest of the developing world.

Table 1. 1: Key Health Indicators

Under-five mortality rate per 1000 live births	257.0
Maternal Mortality Ratio per 100,000 live births (adjusted for under-reporting)	1900.0
Total Fertility Rate (children per woman)	6.8
Life Expectancy at Birth (years)	43.2
Population Growth Rate (1990-2003)	4.2%

Note: Data is for 2003 unless otherwise stated. **Sources:** World Development Indicators and UNICEF (2005b).

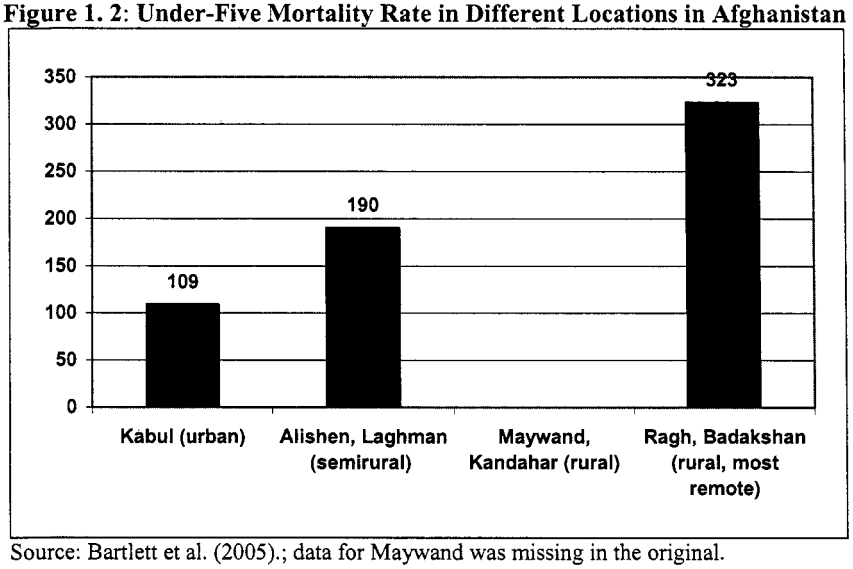
Figure 1. 1: Trends in Under-Five Mortality Rate



Source: Data are from UNICEF (2005).

1.2 ***Inequitable Outcomes.*** Not only is the under-five mortality rate (U5MR) very high by international standards but it is very inequitably distributed. In a rural and remote part of Badakshan province, the U5MR was recently estimated at 323 per 1000 live births, almost three times higher than what it is in Kabul (see Figure 1.2). The under-five mortality rate follows a clear gradient: the more rural and remote the area, the more likely children are to die in childhood.

Figure 1. 2: Under-Five Mortality Rate in Different Locations in Afghanistan



Source: Bartlett et al. (2005).; data for Maywand was missing in the original.

1.3 ***High Rates of Malnutrition in Children.*** Over half (54%) of Afghan children 6-59 months of age were found to be stunted (i.e. 2 standard deviations below the mean on height for age) which is considered "very high" by WHO and is an indicator of chronic malnutrition. By contrast, only 7% of the children surveyed were wasted (i.e. 2 standard deviations below the mean on weight for age) which is considered "medium" by WHO. Thus it appears that Afghan children suffer from widespread chronic, rather than acute, malnutrition (see Table 1.2). Consistent with this pattern is widespread micronutrient deficiency. For example, among children 7-11 year old, 51% had moderate and severe iodine deficiency (urinary iodine below 50 μg/L) which compares poorly to the 20% target established by WHO/UNICEF. Iodine levels among pregnant women are even lower. Although some progress has been made in widening availability of iodized salt, only 28% of surveyed households were found to be consuming iodized salt. In addition, 50% of children 6-24 months old suffered from anemia. This is considered of "high" public health significance by WHO and will negatively impact their psycho-motor development.

Table 1. 2: Nutrition Status in Afghanistan and South Asia

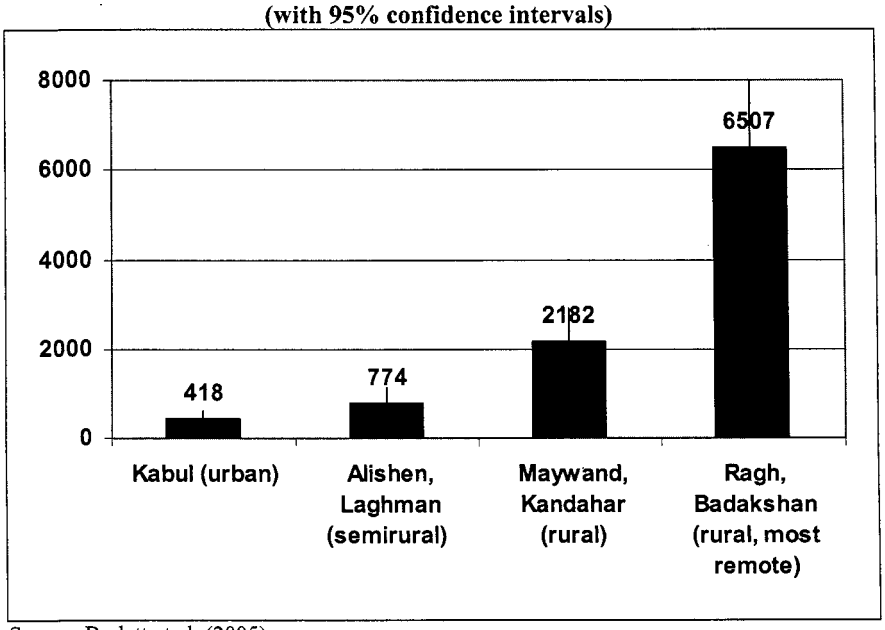
Parameter	Afghanistan	South Asia
Under-weight (<-2 SD weight for age)	39%	46%
Wasting (<-2 SD weight for height)	7%	15%
Stunting (<-2SD height for age)	54%	44%

Sources: UNICEF (2005), and Malnutrition and Micronutrient survey (Afghanistan)

1.4 ***Burden of Ill Health Falls Disproportionately on Women.*** The health of women in Afghanistan has been often commented on because of the very high maternal mortality ratio (MMR). At 1,900 per hundred thousand live births, the MMR is extremely high by international standards. As can be seen in Figure 1.3, the major problem, as with child mortality, lies in the rural areas of Afghanistan where the estimated maternal mortality ratio is five to fifteen time higher than it is in Kabul. Given the high fertility rate and high maternal mortality ratios, a woman in rural Badakshan runs a one in three risk of dying of maternal causes during her lifetime. This high rate is consistent with findings from UNICEF's Multiple Indicator Clusters Survey (MICS)[1] of 2003, which found that skilled attendance at birth was highest in Kabul (53%) followed by rural Laghman province (14%), and lowest in rural Kandahar and rural Badakhshan (both had less than 2% skilled attendance).

[1] The MICS 2003 results refer to the data collected by CSO and UNICEF as re-analyzed by Johns Hopkins University (JHU). See UNICEF (2003).

Figure 1. 3: Maternal Mortality Ratios (per 100,000 live births) in Four Locations in Afghanistan (with 95% confidence intervals)



Source: Barlett et al. (2005).

1.5 ***Very High Fertility Rates.*** Afghanistan has the highest total fertility rate in Asia, with the average woman expected to have 6.8 children during her reproductive life. This is more than twice as high as the average of South Asia (3.3), and is consistent with the findings from the 2003 MICS which found a contraceptive prevalence rate of only 6%. By comparison, this rate is 45% for South Asia as a whole.

1.6 ***Grim Consequences of High Fertility Rates.*** The socio-economic consequences of persistently high fertility rates in Afghanistan are very serious. Reducing fertility rates would be expected to: (i) improve women's health and reduce overall maternal mortality by reducing the number of high order births which are much riskier than low order births (e.g. a woman's eighth birth is riskier than her second or third birth); (ii) reduce infant mortality rates by increasing the time between births; (iii) help empower women by providing them choices about when and how many children to have; and (iv) provide a necessary condition for sustained and rapid economic growth (see below).

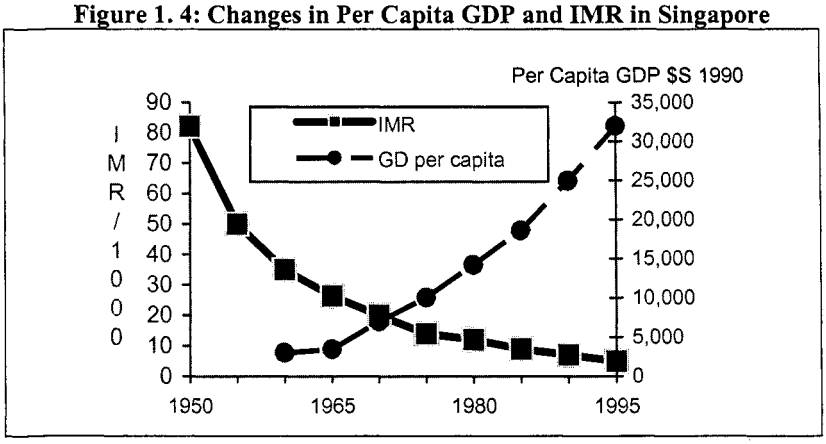
1.7 ***Burden of Disease is Mostly Due to Infectious and Preventable Causes.*** Most of the burden of disease results from infectious causes, particularly among children where diarrhea, acute respiratory infections, and vaccine preventable illnesses likely account for 60% of deaths, although little high quality information is available. The high rates of infectious disease reflect poor personal hygiene, limited access to clean water, inappropriate sanitation, and low level of parental education, indicating the need for a broad based assault on poor health. A survey in 1997 found that polio was a more important cause of disability than injuries from land mines, although this has certainly changed as polio eradication efforts have brought down the number of cases to just three in 2004, a tremendous accomplishment that Afghanistan should be proud of.

1.8 Among adults, tuberculosis (TB) accounts for an estimated 15,000 deaths per year with 70% of detected cases being among women. Malaria is also an important contributor to the burden of disease and leishmaniasis is common. Depression and post-traumatic stress disorder are almost certain to be highly prevalent although little systematic information is yet available. Currently, HIV prevalence is low as

measured by the results blood screening in 12 hospitals around the country. However, there is widespread concern that there are important risk factors present for an HIV epidemic, including considerable drug use. Given the explosive epidemic of HIV among injecting drug users in Pakistan, Afghanistan cannot afford to be complacent.

1.9 ***Socio-Economic Consequences of Poor Health.*** Poor health status of a population appears to have serious long-term adverse effects on overall economic growth. While the relationship between health and economic growth is complex, recent work, building on many previous studies, indicates that on average a one year increase in life expectancy is estimated to raise a country's per capita GDP by about 4% (Bloom, Canning, and Jamison, 2004). Clearly this is not always the case as the experience in Sri Lanka and Kerala suggests. However, the experience of the newly industrialized economies in East Asia indicates that mortality decline precedes, rather than follows, rapid economic growth. For example, in Singapore declines in the infant mortality rate (IMR) to the level of developed countries occurred before its spectacular growth in gross domestic product (GDP) (see Figure 1.4).

Figure 1. 4: Changes in Per Capita GDP and IMR in Singapore



1.10 ***Increased Proportion of the Population who are Working Age is Key to Economic Growth:*** Previous work on the relationship between population growth and economic development led to conflicting results. However, more recent work has focused on the proportion of the population who are of working age and has found quite a large impact on economic growth by lower dependency ratios brought about by lower mortality and fertility rates. For example, in East Asia between 1965 and 1990 the growth rate in the working age population was significantly higher than growth in the general population (2.39% versus 1.58%). According to one study (Wagstaff, 2002), this may have accounted for 1.68 percentage points of East Asia's annual rate of economic growth during this period. This effect appears to hold true for most developing countries where a reduction of 4/1000 in the crude birth rate translates into an increase in annual economic growth of 1.1 percentage points (see Eastwood and Lipton, 1999). These analyses do not take into account the large losses that accrue at the household level due to illness among adults. For example, TB, malaria, and diarrhea can significantly reduce household earnings.

B. Performance of the Health Care System

COVERAGE AND QUALITY OF THE PROVISION OF HEALTH CARE SERVICES

1.11 ***Very Low Coverage of Basic Services until the end of 2003.*** On almost every indicator of health service delivery, there was a great need for improvement. The results of the MICS 2003 painted a fairly bleak picture of the coverage of basic services throughout the country. It also reconfirmed the huge

differences between rural and urban areas. While there was and is room to improve access to services in urban areas, the situation in 2003 in the rural areas was grim compared to South Asia as a whole (see Table 1.3). The coverage achieved was typical of post-conflict situations and, without dramatic improvement, would have resulted in continuously high levels of morbidity and mortality.

Table 1. 3: 2003 Coverage of Basic Health Services in Afghanistan Compared to South Asia

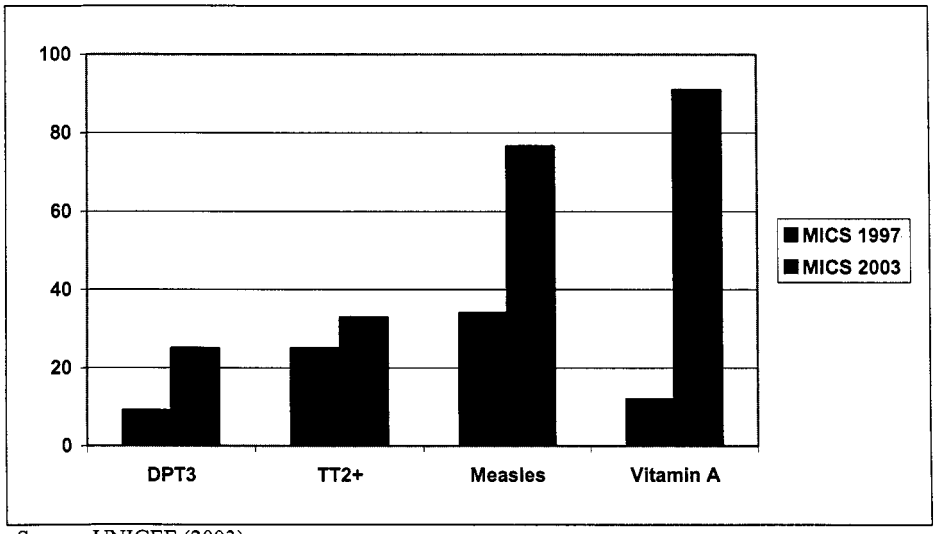
Indicator	Rural Median	Urban Median	National Median	South Asia
Births attended by doctor/ nurse (%)	6.0	38.4	9.0	35
Contraceptive prevalence rate (ever-married women 15-49 years, %)	5.1	23.7	6.4	45
Antenatal care by doctor/ nurse at least one visit during last pregnancy (%)	4.6	45.6	8.0	54
Vitamin A within last 6 mo. (6-59 mos.) (%)	90.3	91.3	91.0	44
Vaccinated for measles (12 - 24 months) (%)	75.6	85.4	76.6	67
Vaccinated for DPT3 (12 - 24 months) (%)	19.5	57.6	25.0	71

Source: UNICEF (2003) for Afghanistan and UNICEF (2005) for South Asia

1.12 ***Large Changes due to Campaigns but Only Small Improvements in Routine Services from 1997 to 2003.*** While the overall level of service delivery found by the 2003 MICS was very low, there have been some improvements compared to the finding of the MICS conducted in 1997 (see Figure 1.5). The gains in measles immunization and Vitamin A coverage were very impressive and reflected a measles campaign carried out in 2002 and the ongoing polio eradication efforts which have also provided Vitamin A to millions of children. However, the changes in routine health services as measured by DPT3 and antenatal care coverage were modest, and coverage levels remained unacceptably low.

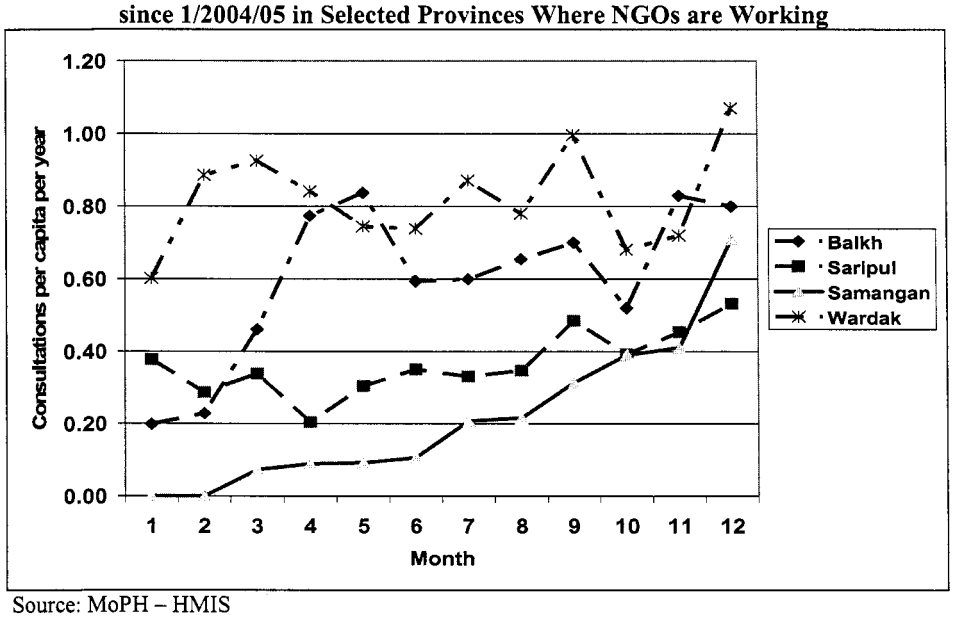
1.13 ***Improvement Since the end of 2003.*** As a result of clear policies and leadership from the Ministry of Public Health (MoPH), there appears to have been a significant increase in service delivery since 2003. For example, in eight provinces where the Government has performance-based partnership agreements (PPAs) with NGOs to deliver basic health services, it appears that the number of outpatient visits has tripled (see Figure 1.6) and the coverage of prenatal care has gone up from 4.6% to 31%. Upcoming household survey information will confirm whether this trend, based on data from the health management information system (HMIS), accurately reflects improvements in the performance of basic health services overall.

Figure 1. 5: Comparison of Immunization and Vitamin A Coverage between 1997 and 2003 MICS in %



Source: UNICEF (2003).

Figure 1. 6: Out Patient Visits Per Capita per Year (Corrected for Under-Reporting) since 1/2004/05 in Selected Provinces Where NGOs are Working

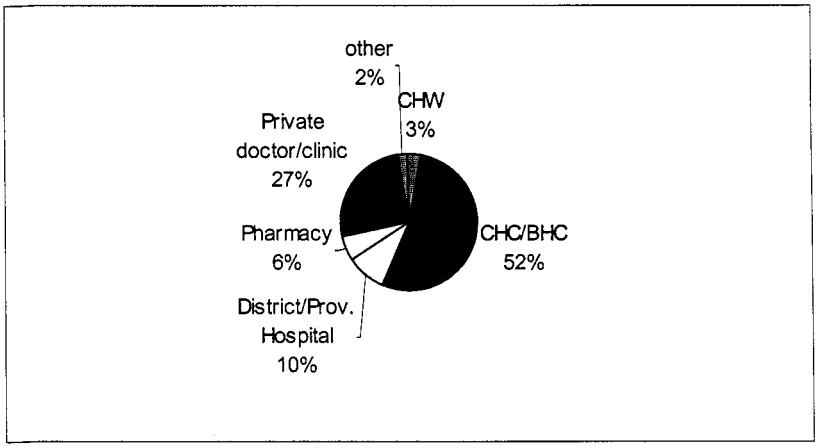


Source: MoPH – HMIS

1.14 ***Quality of Care is a Serious Problem.*** Health facility assessments carried out in September 2004 by MoPH with assistance from Johns Hopkins University; indicate that there is still considerable work to do on improving the quality of care in all health facilities. The knowledge of staff on how to manage common but potentially serious illnesses is modest, even in the case of doctors. Providers were given a series of role plays and the average score was only 51%. Even worse was the observed interaction between providers and patients. In spite of being watched, providers carried out only 10% of the actions deemed necessary for a proper consultation, such as greeting the patient, asking about the duration of an illness, carrying out a physical exam, providing a diagnosis, explaining how to take the medicines, etc.

1.15 ***Publicly-Financed Services Are Providing Most of the Care.*** The recent national health facility performance assessment surveyed people living within one hour's walk of a public health facility. It found that of those who had been sick in the last month, 88% had sought care outside the house. Of the large proportion who sought care, 65% used publicly financed services (although 90% of these are managed or supported by NGOs), and almost half used basic health centers (BHCs) and comprehensive health centers (CHCs) as can be seen in Figure 1.7. These data need to be interpreted cautiously because the sampling was done around public health facilities. Nonetheless, it does indicate that publicly financed facilities are providing the great majority of the health services in rural areas. There is little information on the role of publicly financed services in urban areas.

Figure 1. 7: Use of Services by People Sick in the Last Month



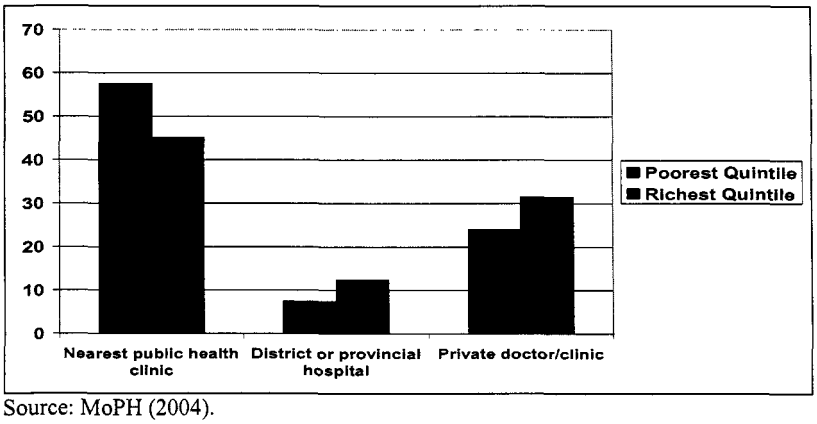
Source: MoPH (2004).

DISTRIBUTION OF SERVICES TO THE POOR AND NON-POOR

1.16 ***BHCs/CHCs are Pro-Poor, Hospitals Are Not.*** The health facility assessment also found that the poor tend to use the BHCs and the CHCs more than their better-off neighbors (see Figure 1.8). However, the rich are almost twice as likely to use district and provincial hospitals as people in the bottom income quintile.

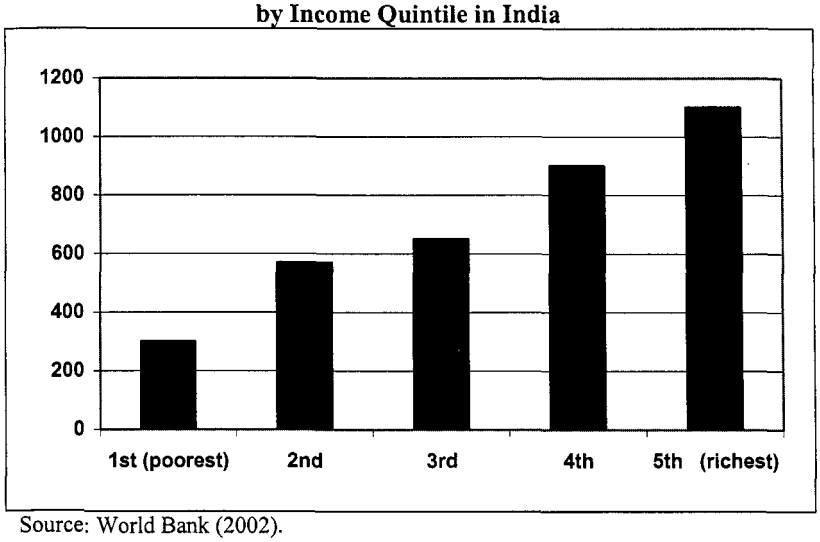
1.17 ***Benefits of Hospitals Accrue Disproportionately to the Wealthy.*** The finding that the poor use hospitals less is consistent with data from other developing countries, which has consistently shown that investments in publicly financed hospital services are disproportionately captured by the better-off. For example, in India (see Figure 1.9), the richest 20% have almost four times as many hospitalizations in public sector hospitals than the poorest 20% of the population. The inequity is even worse than these figures indicate, given that the poor have worse health status and tend to need more hospital care. Hence the challenge is how to ensure that hospital services actually reach those who need them most. This relates to the political economy of hospitals. People want to take pride in having modern hospitals with up-to-date equipment, the better off want to be able to receive high quality modern care at home without having to travel, and doctors are interested in having the latest technology both out of professional pride but also because it can provide additional income. The doctors and wealthy have political voice and their interests will be given priority.

Figure 1. 8: Source of Care for People Sick in the Last Month by Income Quintile



Source: MoPH (2004).

Figure 1. 9: Hospitalizations in Public Facilities per 100,000 Population by Income Quintile in India



Source: World Bank (2002).

DEMAND FOR HEALTH CARE SERVICES

1.18 ***Demand for Health Services is High.*** The national health facility performance assessment (NHFPA) also showed high demand for curative services. Nineteen percent of respondents indicated they were sick in the previous month, with 22% of women reporting an illness. Interestingly, sick women were equally as likely as men to go outside the home to seek curative care (87%, compared to 88% of men). These results may reflect the impact of increases in the number of female health workers. In eight provinces covered by performance-based partnership agreements (PPAs), the proportion of health facilities with trained female health workers (i.e., not including vaccinators) has increased from 25% to 62% over the last two years. One of the most difficult issues on the demand side is reproductive health services, particularly delivery care. Despite the existence of 24 hour emergency obstetrical care in many provinces, only 9% of deliveries are attended by skilled birth attendants. This indicates the continued existence of social and cultural impediments to the use of such services and points out the potential importance of incentives (such as baby blankets etc.) that have been successfully used in Afghanistan and elsewhere.

1.19 ***Communities Want Health Facilities***: The 2003 National Risk and Vulnerability Assessment (NRVA) showed that communities place a high value on health facilities. Having access to health facilities was in the three top priorities for 70% of households, compared to 55% for education facilities, and 44% for irrigation systems. This is consistent with the NHFPA results, which indicated that access was perceived to be an issue even when people lived within one hour's travel of a publicly financed health facility. Of respondents who reported being sick in the last month but not receiving care outside the home, 20% said they lacked transport, 36% indicated that the illness had not been severe enough to warrant care, 30% said the cost of care was too high, and about 8% indicated that the problem was lack of drugs or poor quality care.

C. Organization of the Health Care System and Government Policies

GOVERNMENT INVOLVEMENT IN HEALTH

1.20 ***The Government's Role in the Health Sector***. There are a number of arguments for Government intervention in the sector, not necessarily by providing services, but by financing them and establishing regulations. First, certain components of public health, such as vector control, sanitation, mass education, or programs to provide clean water - compose public good - it is unlikely that the private sector will provide them. Second, many health goods are "merit goods": individuals would not invest enough in vaccination, family planning, or specialized treatments because their value for the society is larger for any individual (i.e., they have positive externalities). Third, Government intervention can be justified on equity grounds since the poor often cannot afford health care. However, these arguments should be weighed against Governments' performance in the health sector, as there is, in many countries, evidence of misallocation of public resources (e.g. resources not reaching the poor, use of non cost-effective treatments, investment in unutilized hospital beds, etc.).

1.21 ***The Government as a Financier of Public Health.*** In Afghanistan, Article 52 of the 2004 Constitution states that "the state is obliged to provide free means of preventive health care and medical treatment, and proper health facilities to all citizens of Afghanistan in accordance with the law" and "the state encourages and protects the establishment and expansion of private medical services and health centers in accordance with law". Government policies have been stated in the 2004 *Securing Afghanistan's Future* report as well as a number of separate policy statements, including the February 2004 Hospital Policy EPHS. In addition, the Government has committed itself to achieving the Millennium Development Goals (MDGs). In meeting its constitutional mandate and to achieve the MDGs, the Government will have to continue investing in delivery of health services.

1.22 ***Other sectors are involved in health.*** Other ministries and institutions (e.g. Ministry of Education, Ministry of Rural Rehabilitation and Development, Ministry of Women's Affairs, Municipalities, Ministry of Agriculture) are mainly involved in health education activities, safe water systems, control of zoonosis, etc. Some ministries (Ministry of Defense, Ministry of Interior, and Ministry of Mines and Industries) run a limited number of health facilities, mainly hospitals, for their own staff. MoPH has established a large Consultative Group for Health and Nutrition (see below) for coordinating the activities of other sectors that are involved in health. Recently, MoPH has started work on improving the performance of the CGHN beyond information sharing through a number of measures like defining the roles and responsibilities of other line ministries in the health sector. This will hopefully reduce duplications and strengthen synergies.

THE CENTRALITY OF PRIMARY HEALTH CARE

1.23 ***Priority Given to Primary Health Care.*** MoPH has given priority to delivering a Basic Package of Health Services (BPHS) to all Afghans, an approach consistent with the focus on the MDGs. The BPHS concentrates on a limited set of simple but effective preventive and curative services, including immunization, family planning, prenatal care, tuberculosis (TB) control, treatment of acute respiratory-tract infections (ARI) and diarrhea. The services included in the BPHS are appropriate for Afghanistan, and if widely delivered would almost certainly have a large impact on the health status of the population. The BPHS also specifies the organization of rural health services, which includes basic health centers (BHCs, designed to cover 15-30,000 population), comprehensive health centers (CHCs, meant to cover 30-60,000 population), district hospitals (meant to cover more than 120,000 population), and community health workers (CHWs). The staff, medicines, and equipment that are supposed to be available in the BHCs, CHCs, and district hospitals are also stipulated in considerable detail in the BPHS.

1.24 ***Progress Made on Physical Expansion*:** MoPH and partners have made considerable progress in expanding physical access to the BPHS. In the eight provinces where MoPH has PPAs with NGOs, there has been a 66% increase in the number of functioning health facilities, and 97% of the target number of facilities have been made operational. There also has been progress in other provinces, and a number of district and provincial hospitals have been rehabilitated. Progress has been made in rationalizing the distribution of health facilities in some provinces near major cities, where previously, uncoordinated efforts had led to the establishment of health centers in locations that duplicated other services and left gaps in more remote areas.

1.25 ***Recommendation: Retain the Focus on the BPHS and Ensure Universal Coverage.*** Because the BPHS represents the most effective, efficient, and equitable means of improving the health of Afghans, the Government and its partners need to ensure that it remains the number one priority. This means that the gaps in BPHS financing need to be filled as quickly as possible, and that the BPHS receives the first call on available resources. As of June 2005, about 77% of the Afghan population lives in areas with the funding in place for delivery of the BPHS. Ensuring that the remaining population gets access to basic services is both important and achievable at relatively low cost. Filling the gap in BPHS will cost about $15 million per year.

PARTNERING WITH NGOS

1.26 ***Historical Role of NGOs in the Health Sector.*** As there is now considerable controversy about what the role of the Government and NGOs should be in future health service delivery, the historical context is important and needs to be kept in mind. During the period of Taliban control, fewer restrictions were imposed on the health sector than on other social sectors, and as a result significant external assistance continued, with externally-funded NGOs playing a dominant role. When the Taliban were removed from power in late 2001, 80% of health facilities in the country were managed or supported by NGOs. However, there was little coordination of activities, there was no BPHS, and the Government had very little influence over the activities of the NGOs. Health facilities were primarily situated in urban and accessible and more secure rural areas, leaving large parts of the population un-served. In addition, NGO activities focused around individual facilities rather than clearly defined geographical areas and populations. This resulted in: (i) an irrational distribution of services with a patchwork of NGO clinics with obvious duplication and inefficiencies; (ii) lack of services in remote rural areas; (iii) no accountability of NGOs for tangible results; and (iv) limited focus on community and outreach services.

1.27 ***MoPH Has Successfully Asserted its Stewardship.*** Since the beginning of 2004, MoPH has been able to assert its stewardship over the sector through performance-based partnership agreements (PPAs) and grants from other donors. Using these mechanisms, the Government has been able to ensure that: (i)

all providers, including all NGOs, are implementing the BPHS and following the technical guidelines of MoPH; (ii) all providers are clearly responsible and held accountable for defined geographical areas and populations; (iii) about 77% of the population now have access to services; (iv) quality of care is independently measured on a regular basis and results are widely available; (v) health activities are coordinated through Provincial Coordination Committees (PCCs) and through the central Ministry; (vi) in most provinces NGOs are selected through a competitive and transparent process; (vii) all publicly-financed health facilities, whether operated by an NGO or not, are clearly marked as being provided by the Government; and (viii) the amount of resources going to NGOs is known to MoPH (in the case of the PPAs, financial information from the NGOs is provided on a quarterly basis and audited financial reports are provided annually).

1.28 ***MoPH is also Delivering Health Services.*** MoPH is also delivering services itself in cooperation with NGOs. Through the MOPH Strengthening Mechanism (MoPH-SM), services in three provinces near Kabul (Panjshir, Kapisa, and Parwan) are managed by the MoPH with technical assistance provided by local consultants. MoPH staff in the three provinces receive salaries comparable to those provided by NGOs (and in keeping with the national salary policy). Financial resources are channeled through the provincial departments with financial management support provided by local consultants. In addition, NGOs have been contracted to train community mid-wives and community health workers.

1.29 ***The Arguments For and Against NGO Involvement.*** Some argue that in the medium and long term the Government should be responsible for service delivery because it is more "sustainable" and health service delivery is a natural function of the state. Others argue that the NGOs will do a better job of delivering services and therefore will save more lives. In addition, they argue that some Government officials are interested in providing services because of the prestige, power, and opportunities for corruption that arise through making personnel decisions, managing finances, and looking after procurement. The NGOs have been fairly quiet on this issue.

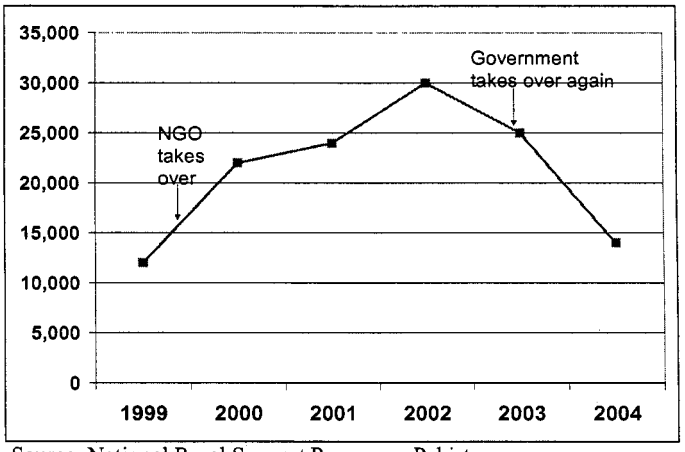
1.30 ***Evidence from Afghanistan is Still Limited.*** There is only limited evidence currently available from Afghanistan on the relative performance of NGOs and the Government in delivering services. More information should be available in the next few months with before and after data available from household and health facility surveys. The initial health facility performance assessment survey provides only a cross sectional view, but does indicate that the community feels that the technical quality of services is better in NGO-run clinics than in Government operated ones. However, there is no significant difference on overall patient satisfaction or on the patient–provider care index, a summary of the quality of patient-provider interaction. One possible area of concern is the absorptive capacity of the Government. The MoPH strengthening mechanism (MoPH-SM) provinces initially suffered from slow disbursement which resulted in a shortage of medicines. This situation has improved recently. The MoPH-SM also relies heavily on consultants and NGOs. It is too early to conclude which approach works better in Afghanistan, but it certainly makes sense for the Government to make decisions based on actual results.

1.31 ***Global Experience Suggests that NGOs will Perform Better.*** The accumulating evidence from other countries indicates that contracting with non-governmental entities will provide better results than government provision of the same services. In a recent review of global experience, ten evaluated examples of contracting were found and all ten concluded that contracting is very effective and that improvements can be rapid (Loevinsohn and Harding, 2005). Four of the ten cases had controlled before and after evaluations, and they demonstrated a large impact ranging from 3 to 26 percentage points on important indicators of performance.[2] Six of the ten studies compared contractor performance to

[2] As measured by the median double difference (follow-up minus baseline in the experimental group minus follow-up minus baseline in the control).

Government provision of the same services and all six found that contractors were more effective than the Government in providing services. NGOs performed better even when they had the same or fewer resources than public institutions. One experience in Pakistan is illustrative. When three health centers in Punjab Province were turned over to an NGO to manage, outpatient visits increased rapidly to almost three times what they had been when the health centers managed by the Government. When the Government took back the health centers to manage, outpatient visits fell back to previous levels (Figure 1.10).

Figure 1. 10: Outpatient Visits per Year in 3 Health Centers in Pakistan Given to an NGO to Manage and then Returned to the Government



Source: National Rural Support Program – Pakistan.

1.32 ***Recommendation: Continue Partnering with NGOs.*** The Government should continue to work with NGOs on a large scale to deliver the BPHS. The decision about whether the Government should provide services in the long term should be based on the evidence on effectiveness and efficiency that comes out of ongoing evaluations. Expansion of the MoPH-SM should be done carefully with rigorous evaluation mechanisms in place.

POLICYMAKING

1.33 ***Strong Progress***. As indicated above, MoPH has made good progress in asserting its stewardship of the health sector. This is evident from the national health policy 2005-2009, national health strategy 2005-2006, and other policy documents, standards, and guidelines developed by MoPH and partners. In line with national policies, MoPH has created the Consultative Group for Health and Nutrition (CGHN). The large CGHN, including representatives from other ministries, donors, the UN, and selected NGOs, meets once a month, chaired by MoPH. A working CGHN meets weekly and serves as a venue at in which to discuss technical and policy issues. All partners in the health sector are welcome to participate in this meeting, and key recommendations for policy are referred here for review. In addition to the CGHN, MOPH has established 24 Task Forces to provide inputs on specific technical issues. Their objective is to provide policy and implementation guidelines, intervention strategies, or program recommendations. These recommendations are then forwarded to both the CGHN and the Technical Advisory Group for review prior to being forwarded to the Executive Board of MoPH for approval.

ADMINISTRATIVE REFORM PROCESS

1.34 ***PRR Process***. The Priority Restructuring and Reform (PRR) process is a fast-track civil service reform effort through which ministries that implement an administrative reform program get an allocation

to pay higher salaries to their employees. It is led by the Independent Administrative Reform and Civil Service Commission (IARCSC) and employs competitive selection of staff solely on the basis of merit. The recruitment is for a renewable 12-month period and provides an 'interim additional allowance' on top of the staff's existing civil service salary. In case the post holder is 'transferred' due to unsatisfactory performance, she/he would lose this interim additional allowance and would thus revert to her original salary and benefits (in the range of Afs. 2,500 or about $50 per month). The maximum additional allowance is currently Afs. 11,750 per month ($245 per month), although, for exceptional positions there is a so-called "super scale" which envisions an allowance in the range of $500-$600 per month (up to $2,000 in exceptional cases). MoPH submitted and received approval for a proposal to PRR the Provincial Health Liaison Office, the Provincial Health Offices, and the General Directorate of Policy and Planning. In addition, almost 700 staff in Parwan, Kapisa, and Panjshir provinces were PRR'ed under the MoPH-SM.

1.35 ***Some Progress on PRR:*** MoPH has been a leading ministry in the Government in terms of implementing the PRR process. MoPH has so far recruited almost 850 staff under PRR, including some 700 in the MoPH-SM provinces, about 80 in provincial health departments, and the remainder in the central office of MoPH. This represents 70% of the planned number in the original PRR proposal accepted by the IARCSC and more staff are in the advanced stages of selection. In recognition of its rapid work on the PRR, MoPH has been given a reward by the IARCSC. More importantly, it appears that the PRR process may be having an effect on performance. The provincial health director (PHD) of Kapisa has 'fired' (transferred out of the PRR-ed positions) five out of his 279 staff, due to underperformance. Absence from work without leave, or underperformance in general, is being acted upon. Anecdotal evidence suggests that the PRR process has increased efficiency but there is little systematic evidence of this.

GRANT AND CONTRACT MANAGEMENT UNIT

1.36 ***Background on the GCMU.*** At its creation in 2003, the role of the Grants and Contracts Management Unit (GCMU) was envisaged to be coordination and oversight of NGOs who were implementing the BPHS through out the country. It was also intended to manage the PPAs financed by the World Bank as those resources are coursed through the Government budget. In addition to these original functions, the GCMU is now also carrying out the following: (i) providing technical assistance and management support to many line departments in the MoPH; (ii) assisting in the implementation of Global Alliance for Vaccines and Immunization (GAVI) and Global Fund for AIDS, Tuberculosis, and Malaria (GFATM) activities ; (iii) donor coordination, including chairing and secretarial functions at the Consultative Group for Health and Nutrition (CGHN) Working Group meetings (once per week), the "large CGHN" (once per month), and the National Technical Coordination Committee (NTCC) meetings (once per month); and (iv) responding to urgent requests from the Minister and Deputy Ministers, including a variety of policy related activities such as helping to develop the Essential Package of Hospital Services (EPHS) and membership on technical working groups such as the Health Care Financing and Sustainability taskforce and the Human Resources taskforce.

1.37 ***Staffing.*** The GCMU is comprised exclusively of local consultants who were recruited competitively by an evaluation committee comprising senior MoPH managers and representatives of the development partners. The GCMU consultants are paid about market wages, i.e., what NGOs are paying for similarly qualified staff. Their relatively high level of compensation has created some resentment elsewhere in MoPH, but it has also helped stem brain-drain from the MoPH to NGOs and the other development partners. There are now 14 local consultants working "in" the GCMU although nine work full time in other departments of the MoPH, carrying out tasks well beyond the original responsibilities of NGO coordination and PPA management.

1.38 ***Recommendation: Continue the GCMU over the Medium Term.*** The GCMU appears to have performed quite well since its inception two years ago. The senior management of MoPH has expressed their confidence in the GCMU in spite of the fact that the consultants were selected by the previous Government. Donors besides the World Bank have expressed their wish to channel funds through MoPH, partly reflecting confidence in the GCMU's ability to properly manage contracts and accounts. The GCMU also appears to have a good reputation among development partners in terms of policy analysis and donor coordination. In objective terms, the GCMU has helped ensure rapid disbursement of World Bank project funds (45% disbursed after 51% elapsed period) and were able to contract NGOs transparently and fairly in 6 months when the same process took 2 years in Pakistan. MoPH would like the GCMU to continue in its present form at least for a few more years as a way of ensuring continuity. If the PRR process is continued, the GCMU consultants should eventually be mainstreamed.

D. Health Care Financing and Sustainability

1.39 This section explores different aspects of financial sustainability in the health sector in Afghanistan, including: (i) the efficiency of different approaches to health service delivery; (ii) the recurrent costs of an efficient public health sector and current health sector expenditures by the Government and development partners; (iii) threats to sustainability and how can they might be avoided; and (iv) how to raise more revenue to cover health care expenditures.

EFFICIENCY CONCERNS

1.40 ***Efficiency of Different Ways of Organizing Health Services.*** The discussion above on delivery mechanisms could have financial implications. It is too early to tell in Afghanistan whether contracting/partnering with NGOs is more efficient than Government provision of health services. However, experience from other countries in Asia where data are available suggests that partnering with NGOs is consistently more effective and more efficient than Government provision of the same services (see Table 1.4). The ratio of Government/contractor cost effectiveness varies from 1.13 to 1.99, meaning that partnering is between 13% and twice as efficient in terms of cost per unit of health services delivered. The greater efficiency of NGOs appears to be due to lower overheads and greater staff productivity.

1.41 There are, however serious limitations to measuring efficiency simply as cost per unit of service delivered. For example, it may cost $2 million to immunize 20% of the approximately 1 million Afghan children born every year and may require $12 million to immunize 80% (these figures are estimations but they are realistic). This would imply a cost of $10 per child immunized at 20% coverage and $15 per child immunized at 80% coverage, suggesting that lower immunization coverage is more efficient. (This seemingly counter-intuitive conclusion results from the higher marginal costs of reaching children in more remote areas, an obvious concern in a country with Afghanistan's geography.) However, this type of analysis obviously fails to take into account: (i) the benefits to the child, family, community, and the economy of having healthier children; (ii) the greater costs to the family and the state of treating vaccine-preventable diseases in the group with lower coverage; and (iii) the benefits of having a lower infant mortality rate. Most health economists have shied away for technical and ethical reasons from doing the kind of cost-benefit analysis that would address these issues. A solution to this issue is to examine the efficiency of different programmatic interventions in terms of cost-per-life (or DALY) saved.

Table 1. 4: Efficiency and Effectiveness of Partnering with NGOs to Deliver Health Services

	Effectiveness			Efficiency		
Setting	**Measure of Effectiveness**	**Contracting**	**Government Provision**	**Measure of cost/ effectiveness**	**Contracting**	**Government provision**
Cambodia (PHC)	% of people sick in the last month using publicly financed facility	33.4%	12.6%	Per capita cost/ percentage point use of public facility	$0.116	$0.131
Pakistan (PHC)	Number of outpatient visits per capita per year	0.53	0.18	Cost per outpatient visit	$ 0.710	$1.410
India (TB)	TB Treatment Success Rate	94%	80%	Cost per successfully treated patient	$118.00	$138.00
Bangladesh (urban PHC)	Change in index of coverage of PHC services	46.6	25.1	Annual per capita cost/1 point change in PHC service index	$0.007	$0.012

Source: Based on Loevinsohn and Harding (2004).

1.42 ***Efficiency of Interventions.*** Efficiency can be ascertained by looking at whether MoPH concentrating on the programmatic interventions that are the most cost-effective as judged by the cost per DALY saved. (DALY is a Disability Adjusted Life Year, which provides a common measure for comparing the burden of disease taking into account both death and disability arising from illness.) An intervention that costs less than $200 per DALY saved (i.e. about the per capita GDP) is generally considered a "good buy", whereas higher priced interventions are seen as inefficient use of resources. The BPHS that MoPH has made its highest priority contains the most cost-effective interventions such as tuberculosis treatment, measles vaccination, and treatment of diarrhea. Hospital treatment of diseases like leukemia and outpatient treatment of depression clearly constitute less efficient use of resources and should receive less funding. Decisions on priority allocation of budgets need to take into account other factors besides cost-effectiveness, however, and this is discussed in more detail in Section E.

Table 1. 5: Cost Effectiveness of Selected Health Interventions

Intervention	Cost per DALY Saved	Source
Vitamin A Supplementation	$1-3	WDR 1993
Treatment of Tuberculosis	$1-3	WDR 1993
Measles immunization	$20	WDR 1993
Oral Rehydration Therapy	$116	WHO-CHOICE
Point of use treatment of drinking water	$124	WHO-CHOICE
Management of childhood pneumonia	$133	WHO-CHOICE
Treatment of depression	$827	WHO-CHOICE
Hospital treatment of Leukemia	$1156	WDR 1993

World Bank (1993)..
WHO-CHOICE: Choosing Interventions that are Cost Effective - http://www3.who.int/whosis/menu.cfm?path=evidence,cea&language=english

RECURRENT COSTS, EXPENDITURES, AND AFFORDABILITY

1.43 ***Recurrent Cost of Efficient Delivery of Health Services.*** Given that NGOs are likely to deliver BPHS services more efficiently than the Government, it makes sense to use the NGOs' actual expenditures as an indication of the future cost of delivering the BPHS. In the eight provinces with performance-based partnership agreements (PPAs), the median bid price was $3.61 per capita per year. The actual median expenditure by the NGOs over the last two quarters was equivalent to $3.22 per capita per year. From this data, it appears reasonable to assume that the BPHS will cost about $3.50 per capita per year, or about $84 million per year for the whole country. The cost of efficient hospital care is much more difficult to calculate, although MoPH has formulated a policy on the essential package of hospital services (EPHS) that calls for no more than 40% of the total government health budget to be spent on hospital care. This seems reasonable given the greater efficiency of the services included in the BPHS and is consistent with better performing low-income countries. This then implies an EPHS budget of $56 million per year and a total public health recurrent budget of $140 million per year or about $5.80 per capita per year (see Table 1.6). There are some capital investments that are needed in addition to the small-scale ones are included in the above costs. The larger capital costs are dealt with below.

1.44 ***Affordability of Needed Public Health Expenditure.*** Currently, Afghanistan is spending less than 1% of its GDP on health (i.e. through the core budget), but more than 3% if the external budget is included (Table 1.4). Public spending from the Government's core budget is considerably less than in its South Asian neighbors, low income countries in general, or heavily indebted poor countries (HIPC, see Table 1.8). At current levels of GDP, even if Afghanistan were to spend 1.5% of GDP on public health services as in other low income countries, it would still require significant external support to sustain needed recurrent expenditure. However, Afghanistan will be able to afford this type of recurrent expenditure by itself when its per capita GDP grows to about $400, assuming that revenue collection keeps pace with economic growth (and public expenditure on health became 1.5% of GDP as in other low-income countries). A per capita GDP of $400 (from current GDP of about $250) is something Afghanistan could reasonably achieve in the next 10 years or sooner. Thus it does appear that the current requirements of the BPHS and the EPHS are sustainable in the long run.

Table 1. 6: Estimated Recurrent Cost of Efficient Health Services in Afghanistan

Item	Cost US$
Median bid price of PPAs per capita per year	3.61
Median actual expenditures per capita per year of PPA NGOs over last 6 months	3.22
Estimated cost per capita per year of BPHS	3.50
Cost of BPHS for all Afghanistan per year	84 million
Cost of hospital services based on MoPH's EPHS policy	56 million
Estimated total annual public cost of efficient health services	140 million
Per capita annual cost of efficient health services	5.80

Source: Staff Estimates.

1.45 ***Current Public Expenditure.*** Of the $182 million spent in 2004/05 (Table 1.7), $136 million or 75% was in the external budget (i.e. funds disbursed directly by donors to NGOs or contractors), for which data are less reliable than per expenditures in the core budget, which are recorded in the Government's accounting system. The large differences between external budget amounts and actual external expenditures underlines the difficulty of accurately obtaining such information. Hence it is a bit difficult to draw definitive conclusions about current public expenditures, but a few things are clear: (i) most expenditures on health services are outside of the Government's control; (ii) external expenditures appear to be erratic and are difficult to predict; (iii) if efficiently used, the total resources available should be sufficient to deliver the BPHS and essential hospital services; (iv) the Government is spending almost

all of its core budget; and (v) as a percentage of GDP, core Government expenditures on health are roughly constant at about 0.8% of GDP.

Table 1. 7: Public Spending on Health

	2002/03		2003/04		2004/05		2005/06	2006/07	2008/09
	Bud.	Act.	Bud.	Act.	Bud.	Act.	Bud.	Bud.	Bud.
US$ million									
Operating Exp.	27.8	16.4	28.0	21.7	25.3	23.1	27.4	27.4	27.4
Development Exp.				10.0	22.0	22.3	31.3	30.8	1.6
Total Core Exp.	27.8	16.4	28.0	31.7	47.3	45.4	58.7	58.2	29.0
External Exp.	0.0	7.0	213.0	143.0	267.0	136.2	87.7	26.4	23.9
Total Exp.	27.8	23.4	241.0	174.7	314.3	181.6	146.4	84.6	52.9
% of GDP									
Total Core	0.5	0.4	0.6	0.7	0.8	0.8	0.8	0.7	0.4
Total Expenditures	0.5	0.6	4.8	3.8	5.4	3.1	2.0	1.1	0.7

Source: MoF (various budgets and financial reports; 2006/07 and 2008/09 are indicator projections).

Table 1. 8: Public Expenditure on Health in Afghanistan Compared to Other Low Income Countries

Country	Public Expenditure on Health as % of GDP	Public Expenditure as % of Total Health Expenditure
Afghanistan	0.8%	8.4%
South Asia	1.3%	24.2%
Low Income Countries	1.5%	27.8%
HIPC	2.2%	41.6%

Sources: World Development Indicators 2005, Johns Hopkins University (2004), Government of Islamic Republic of Afghanistan 1384 budget, and staff calculations.

1.46 ***Recommendation: Increase Government Expenditures on the Health Sector.*** The Government should increase its health sector expenditure in the core budget, probably to around 1.5% of GDP in line with other low income countries. This should be accomplished in the next few years.

THREATS TO SUSTAINABILITY

1.47 ***Large Capital Investments in Hospitals are a Threat to Sustainability.*** The most serious threat to the MoPH budget is explosive growth in the number of hospitals, a clear example of where not taking into account operating costs in investment decisions can have dramatic consequences (for the investment itself, for the sector, and for public finances more generally). A number of donors have promised to build new hospitals, many of them in the large cities. These "gifts" (actually Trojan Horses) will leave the Government with a large stream of recurrent costs that could easily ruin attempts to achieve financial sustainability. Typically, a hospital requires 30-40% of the capital investment in recurrent costs every year. Hospitals built by donors worth $100 million would be expected to cost the Government $30-40 million in recurrent costs every year.

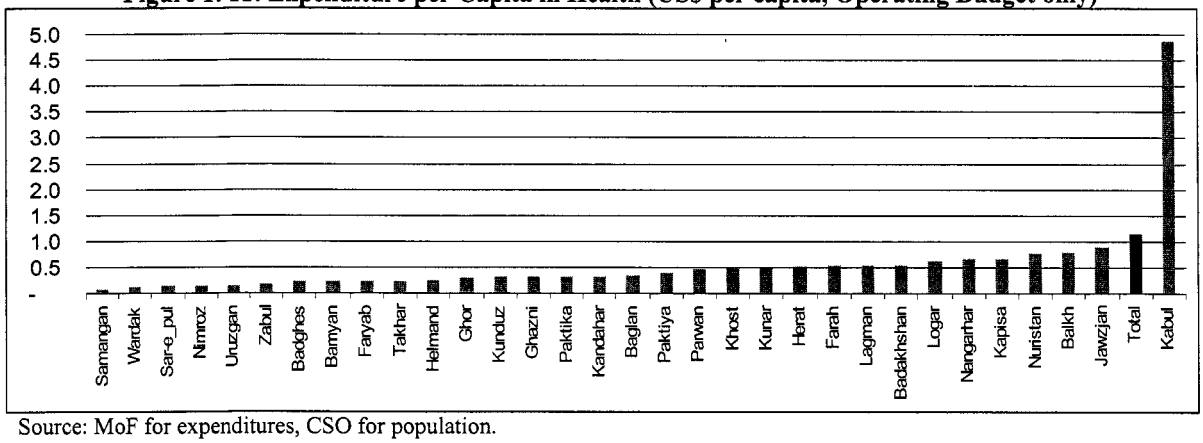
1.48 ***Not Meeting Hospital Recurrent Costs Has Predictable Effects.*** Based on the experience in other developing countries, not covering the large recurrent costs required for hospitals will result in the following: (i) nearly empty hospitals that cause embarrassment to the Government; (ii) hospitals will quickly running down with inadequate attention to maintenance, resulting in degraded services and equipment; (iii) charging patients informally ("under the table") in order to increase the incomes of staff and to obtain needed inputs (drugs, IV sets etc.), which will further reduce the use of hospitals by the poor; and (iv) diversion of resources from the BPHS, further worsening the availability of services in rural areas. Sadly all four of these problems could occur at the same time.

1.49 ***Recommendations: Controlling Hospital Recurrent Costs is Possible.*** It is worthwhile to take several measures to control the growth in recurrent costs for hospitals, including: (i) limiting the number of new public hospitals that are built (even with donor funds); (ii) stopping construction of new hospitals or expansion of hospitals in Kabul or other large cities and ensuring that new hospitals are built in rural areas where the private sector will not go; (iii) ensuring that the donors of the hospitals help meet the recurrent costs of the hospital for at least the first 5-10 years; (iv) encouraging the growth of private sector hospitals in large urban centers, while purchasing services from these hospitals for the poor; and (v) giving autonomy to existing Government hospitals and contracting-in management.

1.50 ***Unplanned Growth of BHCs and CHCs is also a Threat to Sustainability.*** MoPH and NGOs are under considerable pressure from politicians and communities to build additional BHCs and CHCs. Sometimes construction of additional facilities makes sense in order to improve delivery of the BPHS. However, it is important that such new facilities are staffed, equipped, and supplied. Newly built but non-functional facilities could become a source of embarrassment for MoPH and a waste of scarce resources for the country. Dealing with this issue requires a clear policy by MoPH which ensures that: (i) in construction of new clinics, priority will be given to construction of purpose-built facilities where BHCs and CHCs (in rented houses or houses given by the community) already exist; (ii) the recurrent costs of the new facilities can be met from existing resources, or the donor building the new facilities will meet the recurrent costs for the next 5-10 years; and (iii) the planning for such new facilities is done in association with the MoPH.

1.51 ***Growth and Inefficiency in the MOPH Wage Bill.*** Another major threat to financial sustainability in the health sector would be rapid growth in the MoPH wage bill. This could happen from increasing the size of MoPH or significantly increasing salaries. In particular, dealing with the high level of employment in Kabul will be important. According to MOF and the HR Department of MoPH, 51% of the staff on the MoPH payroll are based in Kabul, where less than 15% of the Afghan population lives. This inequity in the distribution of staff cannot be explained by the presence of the central ministry. It is estimated that only about 1,200 staff are actually based in the central ministry. The remaining 6,800 MoPH staff in Kabul, representing 42% of the MoPH workforce, are working mostly in the seriously over-staffed hospitals. Figure 1.11 demonstrates the effect of this on where MoPH funds are spent. Instead of paying excessive numbers of people to work in places where they are not needed, these staff should be encouraged to work in province and in rural areas. Large increases in salaries, or putting large numbers of health staff at the central level into PRR positions would also be serious threats to sustainability.

Figure 1. 11: Expenditure per Capita in Health (US$ per capita, Operating Budget only)



Source: MoF for expenditures, CSO for population.

1.52 ***The Challenges of External Assistance.*** While significant progress has been made toward a sound budget, two key challenges related to external assistance remain. First, the amount of external assistance and the nature of the sector imply that the policy framework can be at risk of being diverted by external interventions (see above the example of hospitals). Second, the uncertainties related to external assistance create a risk for the overall fiscal framework, as it remains uncertain whether resources provided on the external budget – and the services delivered with them – will be continued.

ADDITIONAL SOURCES OF REVENUE

1.53 ***Other Sources of Revenue.*** There has been considerable discussion in the health sector about how to generate additional revenues, possibly through user-charges or Community Health Funds (CHFs). Supporters of user charges and CHFs see an opportunity to increase the resources available for health care, improve the accountability of service providers, and ensure proper utilization of services by patients. They point to the large total out-of-pocket expenditures for private care (averaging about $26 per capita per year) as an indication of willingness to pay, and emphasize the low cost to patients of BHC and CHC services (see Table 1.9). Advocates for free, publicly- funded health services want to ensure access to care for the poor and worry that user charges and CHFs will decrease utilization. They also fear that health expenditures will push households into poverty and point to the large number of families that had to borrow money or sell assets to cover health care costs. This sometimes heated discussion needs to be kept in context. Even those NGOs who are currently charging for services or drugs are generally recouping less than 15% of total operating costs. Thus proportionately more attention needs to be focused on other sources of funding (tax revenue and donations) than on user charges and CHFs.

Table 1. 9: Utilization and Payment for Services by Income Quintiles

Parameter	Wealth Quintiles					
	1 (poorest)	2	3	4	5 (richest)	Average
Of those sick in last month %seeking treatment outside home	86.2	86.9	86.6	89	88.9	87.5
Of those seeking care % using nearest public health clinic	57.5	55	54.6	51.7	45.1	53
Of those seeking care % using private doctor	24	26.2	24	27.7	31.5	26.6
% not seeking care due to cost	5.8	4.4	3.5	2.4	1.6	3.6
Total mean out of pocket expenditure (Afs)	694	590	720	745	675	697
% of those seeking care who experience financial distress*	42	35.6	33.8	27.5	21.3	32.3
% of those using BPHS facility who experience financial distress*	28.7	22	22.6	16.8	12.2	20.7

* Financial distress is defined as the source of financing for health care coming from: a) selling household possessions; b) mortgaging or selling land; c) borrowing from a friend or relative; d) borrowing from some one other than a friend or relative; e) selling blood for money; and/or f) work/labor to earn additional money.
Source: Johns Hopkins University (2004).

1.54 ***Community Trial of Different Approaches to Financing.*** In order, to deal systematically with the issue of user charges and community financing, MoPH, with assistance from Johns Hopkins University, is carrying out a randomized controlled study of three different approaches: (i) completely free services; (ii) user charges in keeping with the MoPH's guidelines; and (iii) a Community Health Fund (CHF) which is essentially a pre-payment scheme controlled by the community. The study has received ethical clearance from the MoPH, baseline studies have been completed, and the implementation of the study interventions is about to begin. Final results should be available around September 2006 and

should provide high-quality evidence for effective policy formulation. There are also a few pilots of different approaches to helping finance hospital care, primarily through user charges. Unfortunately, these pilots are too recent to evaluate systematically.

E. Other Key Issues in the Health Sector

Maintaining a Focus on Results

1.55 ***Government has done Well in Measuring Performance.*** MoPH and other parts of the Government have thus far done a credible job of monitoring and evaluating health sector performance. There has been a large increase in regular reporting from the health management information system (HMIS). Health facility performance assessments are being carried out with third party technical support and provide a sensible way of tracking the quality of care in publicly supported facilities. The 2003 MICS survey provided provincial level household data on health outputs (e.g. immunization and prenatal care coverage, contraceptive prevalence, etc.) and this same approach will be used in the 2005 national risk and vulnerability assessment (NRVA). Thus there will be an opportunity to determine what progress has been made over the last few years in improving coverage of services. Relatively little data is available on key outcome variables such a mortality rates, cause of death, and fertility.

1.56 ***Recommendations: Give M&E a More Prominent Role as a Central Function of MoPH.*** Building on the monitoring and evaluation (M&E) systems it has already put in place, MoPH needs to continue focusing on actual results on the ground so that sector objectives can be achieved. M&E is a central function of health sector stewardship, so senior management needs to pay careful attention to it. ("You manage what you measure.") In practical terms, this implies that: (i) the BPHS and EPHS should be revised to include a limited set of output indicators by which to judge the success of primary care and hospital services; (ii) a person who tracks health system performance should be included on MoPH's Executive Board and be given the opportunity to regularly provide senior management an independent assessment of progress in the sector; (iii) household surveys that provide provincial level output data should be carried out at least every two years; and (iv) mechanisms for regularly obtaining health outcome data need to be put in place. The latter could include demographic and health surveys or implementation of demographic surveillance with verbal autopsies akin to the sample registration system in India. The latter approach could provide annual estimates of infant and child mortality, fertility, and cause of death.

Expanding the Scope of the BPHS Carefully

1.57 ***Prioritizing Additions to the BPHS.*** Given the resource constraints facing the health sector, it is important that the Government carefully prioritize what it adds to the BPHS. A limited set of criteria should be applied to any proposed addition: (i) the burden of disease prevented or cured by the intervention should be large; (ii) the efficacy of the intervention should be clear, and the quality of the scientific evidence supporting it should be rigorous; (iii) it should be easy to implement taking into account both supply-side and demand-side factors; (iv) it should be low cost and cost-effective compared to other interventions; (v) it should provide disproportionate benefit to the poor, women, and other vulnerable groups; and (vi) ideally it should be a public good or exhibit positive externalities (i.e. it provides benefits the society that are greater than simply the sum of individual benefits).

1.58 ***Iodine Supplementation as a High Priority Intervention.*** As an example of a high-priority intervention, iodine supplementation followed by salt iodination responds to a very large problem (see section A). Iodine supplementation is clearly very effective, and the scientific evidence supporting its use is

incontrovertible. It is also an intervention that is easy to implement in the field using existing mass campaigns (although salt iodination may take more effort). The high level of coverage achieved in other campaigns indicates that it will be easy to implement the intervention (supply-side issues) and there appear to be no demand side issues. Iodine supplementation is low cost and, at $8-19 per disability adjusted life year (DALY) saved, it compares very favorably to other interventions in terms of cost-effectiveness. Iodine supplementation would also be expected to have a disproportionate impact on the poor and those living in remote mountainous areas. There is also a public goods aspect to iodine supplementation because the community may not know how iodine deficient they are and will likely use less iodine supplements or iodized salt than is socially optimal. Thus on all the criteria, iodine supplementation is very attractive.

1.59 ***Mental Health Not Currently a Priority Intervention.*** An example of something that should probably not be seen as an immediate priority is community mental health activities provided through the primary health care system. While there is no argument about the large burden of mental illness, there is considerable controversy about whether community based services can make a difference. The evidence supporting these interventions is modest. The interventions may be difficult to implement in the field partly because they require a lot of training and supervision, and the stigma attached to mental illness further contributes to the complexity of its successful implementation. Community-based mental health activities are also expensive compared to other interventions, and given the lack of evidence on its efficacy, its cost effectiveness is difficult to calculate. Nevertheless, simple treatment of depression in a PHC setting is calculated to cost about $827 per DALY saved according to WHO. Given these concerns, community mental health should not be introduced into the BPHS at this stage. However, a sensible approach to the large burden of mental health is to pilot test and rigorously evaluate large-scale community mental health interventions. This is being done by MoPH and HNI (HealthNet International), although it is not clear whether the study has collected sufficient baseline data from experimental and control areas to reach conclusions about effectiveness.

1.60 ***Recommendations: Expand the Scope of the BPHS Carefully.*** Decisions to expand the scope of the BPHS should be made carefully and based on clear criteria. Interventions such as iodine supplementation and fortification should be implemented as a priority. More contentious interventions like community mental health should be carefully evaluated by pilot tests before being incorporated into the BPHS.

INTEGRATION OF VERTICAL PROGRAMS INTO BPHS

1.61 It is clearly important to have vertical programs like EPI, TB, malaria, etc. that concentrate on supporting specific activities by setting technical standards and guidelines, conducting training, carrying out supervision, defining reporting requirements, and providing special logistic needs (such as vaccines or TB drug blister-packs) that are otherwise not readily available. In most developing countries, there is a tension between the vertical programs and the managers responsible for delivering health services in the field. This tension can be creative. However, it could also impede delivery of the BPHS unless clear principals are laid out. There are already examples of situations where vertical program staff at the provincial level, in their desire to push the program, have interfered with and duplicated the efforts of field managers charged with implementing the BPHS. MoPH needs to formulate an explicit policy regarding the relationship between vertical programs and managers of field programs.

1.62 ***Recommendations: Clarify the Role of the Vertical Programs in the BPHS.*** MoPH should ensure that: (i) there are no vertical program staff below the level of the provinces; (ii) no incentives should be paid by vertical programs (or their donors) to staff below the provincial level to work on particular programs; (iii) the number of vertical program staff in the provincial health office should be kept modest (maximum 2-3); (iv) the vertical programs and their staff refrain from telling field managers **how** to organize or manage health services because the latter are the ones responsible for service delivery

and have more insight into how things are working on the ground (for example, EPI staff should focus on the **what** of service delivery by ensuring that high coverage is being achieved, that the vaccination schedule is being followed, and that the cold chain is being properly maintained, they should not tell managers how to organize EPI services); and (v) new reporting requirements by the vertical programs should be approved by the monitoring and evaluation department.

ENSURING MOPH RETAINS STEWARDSHIP OVER THE SECTOR

1.63 ***Health Sector Development will be Dependent on External Resources.*** Given economic conditions in Afghanistan, it is likely that the Government will be heavily dependent on external financing of the health (as well as virtually every other) sector in the medium- and even long-term. While this is hardly desirable, the alternative - a limited investment in human capital development through improved health - is even worse. Thus the Government needs to be realistic about the prospects external financing. Many Afghans, based on their experience in the early 1990s, are very concerned that external financing will disappear in the near future. (If this does happen, then virtually all health sector activities will be negatively affected, not just those being implemented by NGOs.) More realistically, external donors will continue to invest in the health sector as has happened in almost all post-conflict situations in the last two decades. Places like Timor Leste, Cambodia, Rwanda, and Mozambique have all seen consistent and continuing external assistance in the health sector.

1.64 ***Recommendation: Resources should be Channeled Through the Government.*** Seeing as the health sector will be largely financed by external resources over the medium term at least, it is important for the Government that donor funds be channeled through the budget process (see section D on some of the financial issues). This will allow MoPH to retain its stewardship of the sector and ensure that activities are well coordinated and consistent with its policies. MoPH has a good track record of managing World Bank resources, which should encourage other donors to use a similar approach. In the next few years, MoPH should work with its major donors to set up a sector-wide approach (SWAp) whereby resources would be pooled and go through the budget. Donors would be less involved in day–to-day activities and instead could limit their involvement to policy discussions, analysis, and technical assistance.

CHAPTER 2. EDUCATION

Executive Summary

i. ***There has been an unprecedented leap in student enrollment.*** The first three years of reconstruction in Afghanistan witnessed a large jump in student enrollment, reaching by far the highest level in the history of Afghanistan. Female enrollment in primary schools far exceeds that in the pre-Taliban period, although it remains well below the figure for boys. In 2003, the net enrollment rate for boys in primary schools was 67%; for girls 40%. Higher education has also seen a substantial increase in the number of students, with enrollment jumping from 4,000 students in 2001 to 38,000 in the fall of 2004.

ii. ***There are persistent large gender disparities, especially in the southern provinces.*** Although girls account for 34% of total enrollment in aggregate (primarily due to high enrollment in the Kabul, Mazar-i-Sharif, and Herat cities), wide gender disparities persist in southern provinces where girls represent less than 15% of total enrollment. Supply-side constraints (schools' geographical proximity from home, separate classrooms/shifts for boys and girls, female teachers, etc.) seem to be more pronounced than limitations on the demand side (parents' willingness and ability to enroll their daughters).

iii. ***The quality of education needs to be substantially improved.*** While no output indicators (student learning achievement, completion rates, etc.) are available to ascertain the current status of the quality of education in Afghanistan, the available input indicators (teachers' background, curricula, textbook quality and availability, conditions of physical learning space, time on task, etc.) strongly suggest that quality is generally poor. The lessons learned from other post-conflict countries suggest that an early focus on the quality of education – not only access – is key for rebuilding the education sector. The financing strategy in the education sector has to be closely aligned to the policy objective of quality improvement.

iv. ***Overall spending levels in education must be sustained, and budget allocations within the sector should be more targeted and strategic.*** The current level of public spending in education needs to be sustained in order to: (i) meet the increasing demand for education, (ii) improve the quality of education, and (iii) narrow gender and regional gaps. In addition, the available resources need to be more targeted and used strategically. Policy objectives and spending patterns need to be harmonized (e.g. increasing the share of non-salary recurrent expenditures to meet the quality objective), and the effectiveness of the use of limited resources must be improved. To this end, better indicators and monitoring systems for budget execution are critical. Allocations of *tashkeel* and non-salary budget to schools, districts, and provinces should be made on a transparent basis, and the information should be available at all levels. A simple funding formula for education budgets should be developed.

v. ***Educational administration needs to become more de-concentrated.*** Some of the administration and budget execution functions, such as for use of non-salary recurrent budget, should be delegated to the province or school level in order to increase the efficiency of expenditure, improve the management of schools, and enhance the responsiveness to demand. It is equally important that Provincial and District Education Departments as well as schools participate in budget preparation. Communities and parents should be encouraged to participate in school management, for example monitoring attendance of teachers and students, supervising minor repair work, and organizing extra-curricular activities. The geographical and logistical difficulties faced in Afghanistan are such that centralized management will

not improve the quality of education at the school level. In addition, the widespread demand and enthusiasm for education should be productively tapped and exploited before they fade away.

vi. ***Strategies to respond to the anticipated large sudden increase in the demand for secondary education should be developed.*** As the current bulge of students in the Grades 1-3 moves up the system – it is hoped without too large a drop-out rate – the demand for secondary education is expected to rise significantly by 2008/2009. The present supply is not prepared to meet a sudden increase in demand, either physically or institutionally. It is critical to develop and implement appropriate strategies, including pre- and in-service training programs for secondary teachers, secondary curriculum revision, upgrading and/or expansion of physical space with laboratories, etc. in a phased and timely fashion. Detailed costing of such strategies for both investment and recurrent budget is essential.

vii. ***Higher Education needs to be revamped, with sustainable financing strategies.*** The quality of higher education is extremely poor, as indicated by (i) the lack of qualified professors; (ii) outdated curricula; (iii) absence of textbooks, reference materials, libraries, and laboratories; and (iv) poor physical environment. The governance and management system is obsolete, with over-centralization and lack of autonomy and accountability at the university level. Universities are totally dependent on government financing and support from donors. Tuition including dormitory and food is free. Current financing is unsustainable, and not enough to make any improvements in the quality of higher education. There is an urgent need to diversify financing and to find strategies for cost-sharing or cost-recovery.

A. Institutional and Service Delivery Framework in the Education Sector

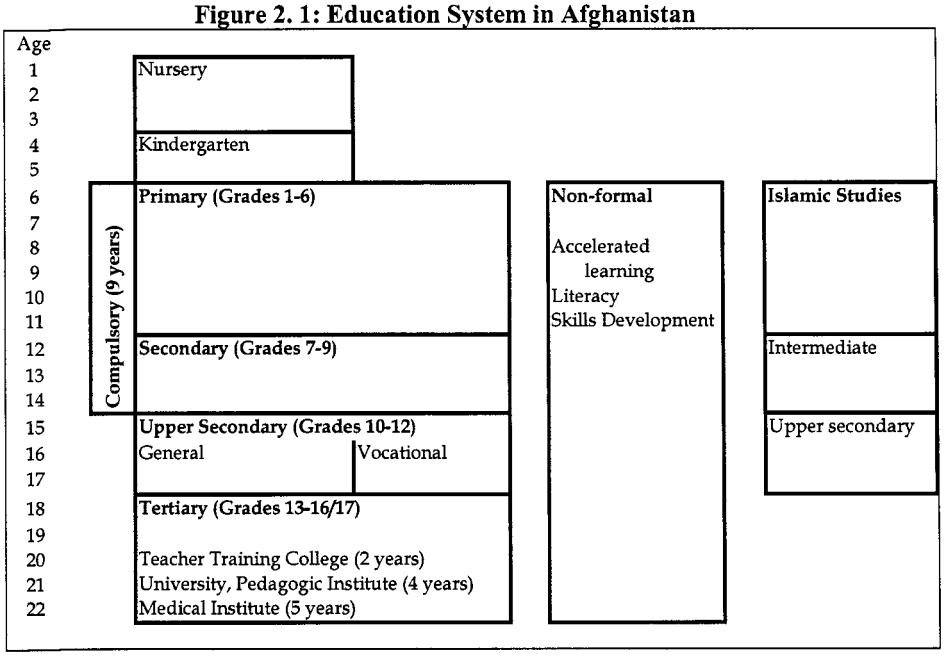
2.1 The potential contribution that the revitalized education system can make to the resolution of various difficult issues is immense in Afghanistan. Education is expected to meet Afghanistan's daunting and complex social, economic, historical, and political objectives and aspirations. Enhanced human capital is a necessary ingredient for private-sector driven growth and poverty reduction. It is fair to say that the future of Afghanistan depends on what and how it invests in the education sector today. There are, however, other sectors and government programs which also claim the same centrality and public resources in post-conflict Afghanistan. Moreover, the public resources domestically generated and externally financed are limited and often unpredictable. In such a situation there is no alternative to prioritizing and maximizing the effectiveness of expenditures, both within and between sectors.

2.2 The objectives of this chapter are to: (i) outline the institutional framework and current status of the education sector; (ii) review Government strategies and policy; (iii) analyze the fiscal shape of the education sector; (iv) highlight implementation issues; and (v) recommend practical actions to improve the use of public resources and the performance of the system. This chapter analyzes formal primary, secondary, and higher education. Vocational and technical education, non-formal education, literacy, early childhood development, and continuing education, although they are important topics, are not included in the analysis here.

DEFINITION OF THE SECTOR

2.3 In Afghanistan, primary education consists of Grades 1-6 starting at age 6, lower secondary education consists of Grades 7-9, and higher secondary education Grades 10-12. According to the new Constitution, compulsory education comprises of Grades 1-9. Education is provided for free at public institutions from Grade 1 until the undergraduate level. Tertiary education starts from Grade 13. It includes university education for 4-6 years and teacher training for two years for primary school teachers and four years for secondary school teachers. Higher education is available in universities, pedagogic institutes, and teacher training colleges.

Figure 2. 1: Education System in Afghanistan



2.4 The Government's vision of the education sector, set out in a number of policy documents (see below) is to provide good-quality education for all regardless of gender, ethnicity, language, religion, and geographical location, and to provide opportunities for secondary and higher education of international standard to build skilled human resources able to meet the private-sector driven national development and reconstruction objectives. The Government is also committed to the Millennium Development Goals (MDGs). The education related targets of the MDGs and their monitoring indicators are shown in Table 2.1.

Table 2. 1: Education in the Millennium Development Goals (MDGs)

Targets	Monitoring Indicators
Goal 2. Achieving Universal Primary Education	
Target 3 : Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.	▪ Net enrollment ratio in primary education ▪ Proportion of pupils starting grade 1 who reaches grade 5 ▪ Literacy rate of 15-24 years old
Goal 3. Promote Gender Equality and Empower Women	
Target 4 : Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015.	▪ Ratio of girls to boys in primary, secondary and tertiary education ▪ Ratio of literate women to men, 15-24 years old ▪ Share of women in wage employment in the non-agricultural sector ▪ Proportion of seats held by women in the national parliament

2.5 Afghanistan has a long way to go; the net enrollment rate was 54% (67% for boys and 40% for girls) in 2003, the completion rate is not available as the bulk of students "came back" to school three years ago, and girls account for approximately one-third of the total enrollment. The MDGs are not unattainable, but require dedicated and sustained financial and more importantly institutional and human resources to achieve them.

Table 2. 2: Afghanistan's Progress Toward the Millennium Development Goals (Education)

	Actual			Target
	1990	**1995**	**2003**	**2020****
Adult literacy rate (age 15 and above)			29	
Net Primary Enrollment Rate (Female)	19*	32*	40	100
Net Primary Enrollment Rate (Total)	27*	49*	54	100
Primary Completion Rate (Female)	na	na	na	100
Primary Completion Rate (Total)	na	na	na	100
Girls' Enrollment Share, Primary (%)	34	32	34	50
Girls' Enrollment Share, Secondary (%)	na	na	na	50

* Gross enrollment rate

** The figures for 2020 are indicative targets

na - data not available

INSTITUTIONAL FRAMEWORK

2.6 Key stakeholders in the education sector are officials of the Ministry of Education (MoE), educational administrators in the Provincial and District Education Departments, principals and teachers at schools, students, parents, community leaders, NGOs who are providing services in the education sector, employers who recruit graduates from the education system, and development partners who support the education sector through either the core budget or the external budget.

Table 2. 3: Current Functional Responsibilities in Primary Education

Level of Governmental Administration	Funded Internally (governmental budget)	External Provider	Funded Externally (wholly or partially)
Ministry of Education	• Development of policy and strategies • Budget preparation and execution • Staff allotments, funding of salaries, material, equipment • Staff appointments above grade 6 • School registration, coordination of school construction & rehabilitation • Development and implementation management of teacher training • Curriculum and textbook development	NGOs Donor agencies Private contractor	• Textbook printing • Technical assistance (education policy and strategies; curriculum development; textbook development) • School construction & rehabilitation • Salaries, material, equipment
Provincial Education Department (PED)	• Staff appointment for grade 6 & below • Distribution of materials • Inspection of schools • Academic supervision	NGOs Donor agencies Private contractor	• Provision of supplies, materials, salaries, equipment • Supervision • Teacher training (in-service) • School construction and rehabilitation
District Education Department (DED)	• Inspection of schools • Identification of needs for teachers, material, equipment, construction and repair	NGOs	• Provision of supplies, materials • Supervision • Teacher training (in-service) • School construction and rehabilitation • Community mobilization
Schools	• Provision of education	Communities NGOs	• Contribution to school construction, rehabilitation & maintenance (provision of land, labor, material) • Community mobilization

2.7 MoE has overall policy responsibility for primary and secondary education. The system is highly centralized, with MoE making most of the budget and policy decisions with little consultation with the provinces, districts, and schools. Nevertheless, some Provincial Education Departments and schools take "practical" actions, especially with regard to selection of contract teachers when positions and budget are allocated.

2.8 By far the greatest provision of education is in Government schools (97%).[1] NGO-run schools account for 2% and mosque-based schools less than 1% of total students' enrollment. In terms of types of schools, 97.5% are general schools, 1.6% madrassas, 0.7% home-based schools, and 0.1% vocational schools.

2.9 The degree of participation of parents and communities in school management varies depending on location, and remains weak in general. Many schools have established Parent Teacher Associations (PTAs) including representatives of teachers and parents and/or School Management Committees (SMCs) with school principals, representatives of teachers, community leaders, and parents. These committees are beginning to take on some responsibilities such as preparing school improvement plans and

[1] UNICEF (2003).

organizing school activities. According to the Expenditure Tracking Survey, 77% of sampled schools have PTAs and 73% have SMC's.

2.10 Donors, who collectively finance most of the development budget for education,, exert significant influence - with or without intention - in the education sector. The effort to organize the Education Consultative Group (ECG) was partially successful during the Transitional Islamic State of Afghanistan, but it has been dysfunctional since the summer of 2004, mainly because of frequent changes of Minister of Education and some key officials in MoE. Dialogue between the ministries and donors needs to be strengthened, especially for the coordination of donor support to the Government-led program.

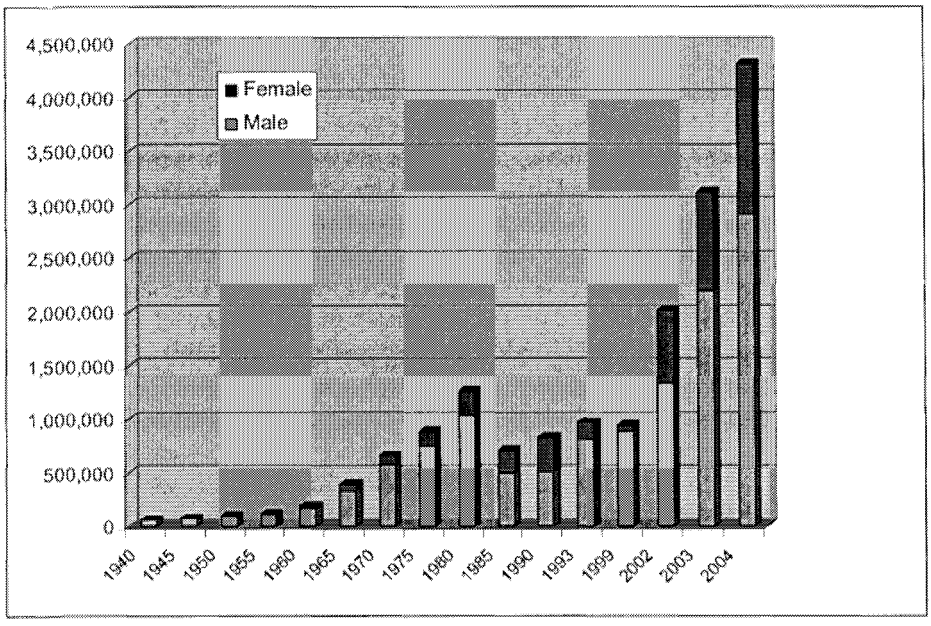
2.11 The Ministry of Higher Education holds responsibility for tertiary education. Various ministries, including Education, Labor and Social Affairs, Higher Education, and other sectoral line ministries, are involved in technical and vocational education and training. The governance, management structure, and norms in higher education are outdated. Most higher education institutions have little if any administrative, financial and academic autonomy. Universities have been treated as departments of the Ministry. However, the draft higher education law stipulates the responsibilities of the state, public providers, and private providers, with an emphasis on increased institutional autonomy and accountability of higher education institutions.

DEMAND AND SUPPLY OF SERVICES

a. Primary and Secondary Education

2.12 Demand for education is the strongest in the history of Afghanistan, as shown in actual enrollment (Figure 2.2). Less than one million students, almost all boys (93%), were enrolled in 1999. In 2004, almost 4.5 million children were in schools, of which 34% were girls.

Figure 2. 2: Enrollment Growth (Grades 1-12)

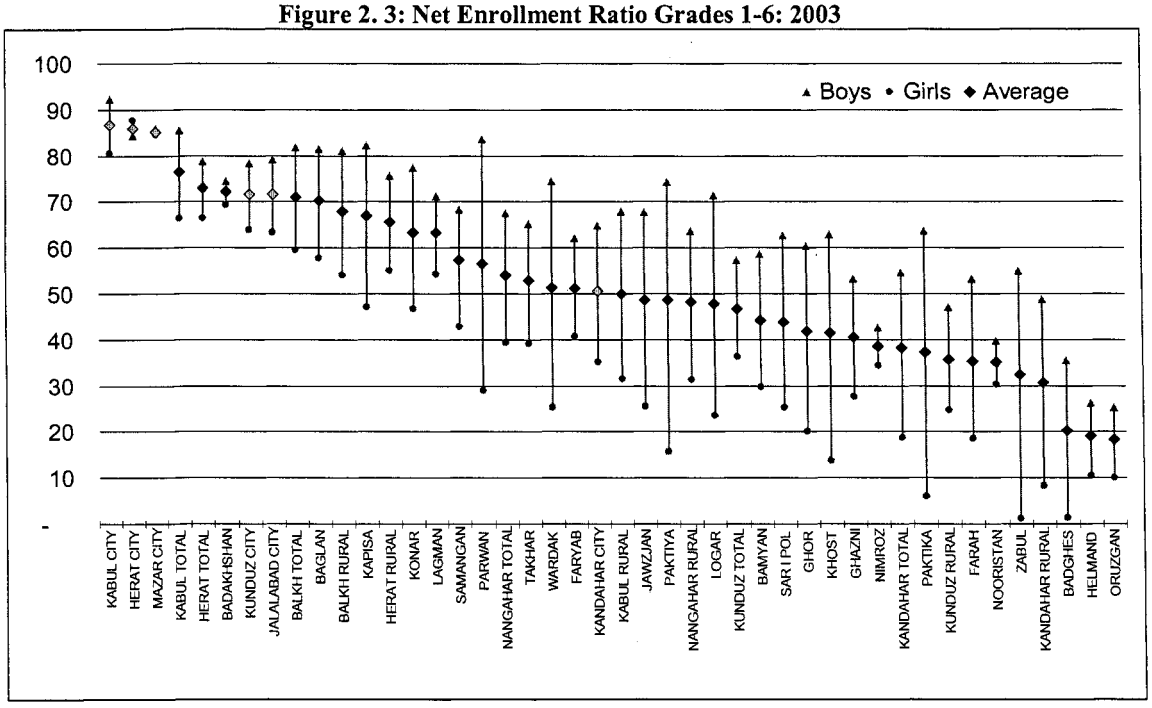


Source: MoE, UNESCO and UNICEF for various years

2.13 Nevertheless, the enrollment rate for girls, especially in certain provinces, remains low (Figure 2.3). Close scrutiny of net enrollment in disaggregated form reveals stark regional and gender disparities.

The net enrollment rate in 2003 was as high as 87% in Kabul city (boys 92%, girls 81%), 86% in Herat city (boys 84%, girls 88%), and 85% in Mazar City (86% boys, 85% girls). These are indeed remarkable achievements. At the other extreme, however, the picture is bleak. The total net enrollment rate was less than 20% in 2003 in three provinces, Badghes, Helmand and Uruzgan. The net enrollment ratio for girls was as low as 1% in Badghes and Zabul provinces. Disparities are also noted depending on languages, notably with enrollment of Pashto speakers much lower than average.

Figure 2. 3: Net Enrollment Ratio Grades 1-6: 2003



Source: UNICEF (2003).

2.14 Major constraints contributing to low enrollment seem to be on the supply side. According to the Multiple Indicator Cluster Survey (MICS) 2003, schools being "too far" (37.2%) or having "inadequate facility" (25.8%) or "no separate school (for boys and girls)" (22%) are the most frequently cited reasons for children not enrolled in schools (Table 2.4). These supply constraints are more pronounced in rural in urban areas. According to the school survey carried out by the Ministry of Education in 2004, 73% of existing schools have not yet been rehabilitated, 20% of schools have been rehabilitated (or constructed), and rehabilitation is ongoing in 7% of schools. Only 15% of all schools are for girls only, against 44% for boys (the remainder being mixed schools).

2.15 Another important constraint on the supply side is the number of teachers. While it has been increasing steadily, it is clearly a constraint in the sense that provinces with more teachers per school-age children tend to have higher enrollment ratios (Figure 2.4b). This correlation appears stronger than the link between school facilities and enrollment (Figure 2.4a).

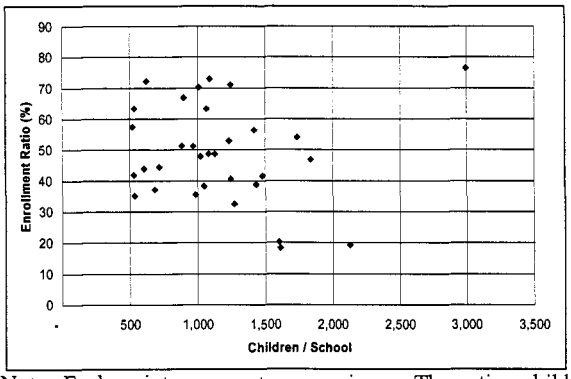
Table 2. 4: Reasons for not Being Enrolled in Schools in 2003 (%)

	Reasons	National	Major Cities	Other Urban	All Urban	All Rural
Supply-side constraints	Too far	37.2	20.4	29.9	25.5	39.5
	Inadequate facility	25.8	0.3	17.6	9.6	29.0
	No separate school	22.0	1.2	24.0	13.6	23.6
	Teachers gender	6.4	0.3	3.1	1.8	7.3
	Inadequate sanitation	1.0	2.4	1.4	1.9	0.9
Demandside constraints	Domestic work	17.2	18.4	18.8	18.7	16.9
	Not necessary	15.0	27.3	14.0	20.1	14.1
	HH income	7.1	13.1	7.6	10.1	6.6
	Expensive	5.2	12.0	4.3	7.8	4.7
	Feel ashamed	4.4	5.3	3.2	4.2	4.5
	Others	21.1	22.7	17.6	19.9	21.3

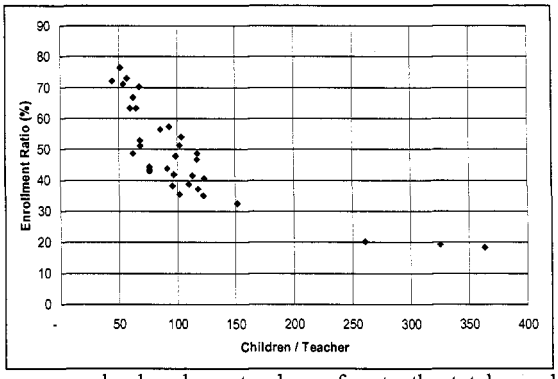
Source: UNICEF (2003).

Figure 2. 4: Supply Constraints on Enrollment

2.4a. Schools and Enrollment



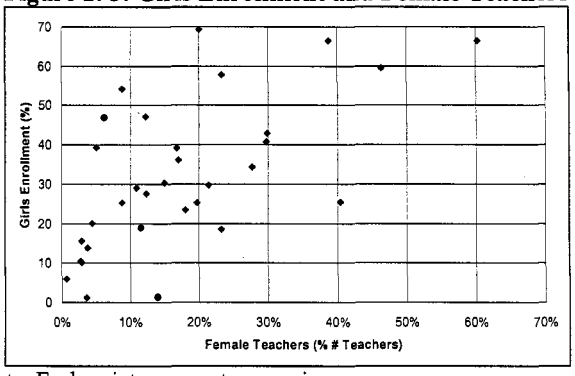
2.4b. Teachers and Enrollment



Note: Each point represents a province. The ratios children per school and per teacher refers to the total population of children in age to go to school (not only those enrolled). Source: UNICEF (2003) for enrollment data and Table 2.5.

2.16 The supply side also seems to constrain enrollment for girls. While the correlation is weak, provinces with a larger proportion of female teachers tend to have higher girls' enrollment rates (Figure 2.5). This reflects in particular a similar correlation between availability of schools for girls and girls' enrollment and the correlation between female teachers and schools for girls.

Figure 2. 5: Girls Enrollment and Female Teachers



Note: Each point represents a province.
Source: UNICEF (2003) for enrollment data and 2004 school survey.

Box 2. 1: A Summary of Lessons from Experiences of Reconstruction of the Education Sector in Other Post-conflict Countries

Lessons applicable to Afghanistan include the following:

- *Conflict generates serious backlogs in education.* Damage to physical infrastructure is relatively easy to rectify. A more difficult challenge is the loss of human and institutional capacity that frequently accompanies conflict. Teacher training frequently collapses, learners drop out, management and policy development break down, and resources are channeled to military expenditure and away from education, leaving schools without textbooks and learning materials, teachers unpaid, and schools unsupervised.
- *Not business as usual.* The added demands created by conflict, the scale of the reconstruction challenge, the urgency of preventing relapse into violence, and the extremely difficult operating conditions call for innovative strategies and programs that address the usual development challenges along with the additional problems created by conflict. Even though many of the development tasks are familiar, education programming in post-conflict societies cannot be "business as usual".
- *Education is a development activity.* While education may be an important element of humanitarian assistance and critical for child and social protection, it is also, fundamentally, a development activity. It should be oriented towards the country's social, economic, and political development and the longer-term interests of the learners and society.
- *Decentralize the system and encourage parental involvement.* During most conflict situations the energy to sustain delivery of education shifts to communities and schools, and in the early reconstruction phase this energy can provide critical momentum to get schools reopened and the system running again. It is important that efforts to reconstruct the system do not undermine the level of community involvement and participation that is frequently engendered during conflict. Community action, involvement, and ownership will be key to the security and sustainability of reconstruction efforts. Enhancing community participation can promote the effectiveness and efficiency of implementation. Central government can best convince communities of its legitimate leadership through provision of support to communities in ways that empower them. At the same time, mechanisms that deliver resources directly to schools and communities must be progressively integrated into the emerging administrative and monitoring system, to avoid the emergence of parallel bureaucracies.
- *Acknowledge the importance of ongoing commitment to quality improvement.* The most profound and lasting impact of conflict on education is on quality rather than on access. Post-conflict situations often induce an "access first, quality later" approach. Rebuilding quality is one of the most significant challenges in reconstruction, and should be a consideration from the outset. Quality is a concern of all communities, parents, teachers, and students. Strategies to address it are most successful when implemented as an ongoing process rather than as a response to some standard determined historically or externally. Involving communities, parents, and teachers in discussing quality improvement pays good dividends in terms of recognizing quality improvement as a process. Discussions about how to improve the quality of learning and of the learning environment are as important in temporary learning spaces under trees or canvas as they are in established systems.
- *Teachers are the most critical resource in education reconstruction.* It is vital to make early moves to consolidate the teaching corps and ensure their appropriate remuneration, utilization, and training. Conflict usually has profound and negative impact on a country's teacher corps, which frequently becomes dispersed, sometimes killed, and often unpaid or underpaid. Teacher supply presents a complex array of problems for reconstruction. Reconstruction usually begins with a cohort of existing teachers inherited from previous systems and from community or private initiatives that sprang up during conflict. In the early post-conflict period, qualified teachers may be attracted out of the teaching profession to more rewarding opportunities, while a large number of unqualified teachers may be drawn into the system, creating a need for both rationalization and professional development.

Source: Buckland (2005).

Table 2. 5: School Survey Summary

2004 School Survey Data Summary

Code	Province	Schools	Students				Teachers				S/T Ratio	# of students per school
			Total	Male	Female	% of Female Student	Male	Female	Total	% of Female Teachers		
1	Kabul	332	758,726	442,522	316,204	42%	7,646	11,584	19,230	60%	39	2288
2	Kapisa	134	80,259	68,431	11,828	15%	1,677	232	1,909	12%	42	599
3	Parwan	311	249,010	144,849	104,161	42%	4,559	561	5,120	11%	49	801
4	Wardak	262	118,696	75,168	43,528	37%	2,062	199	2,260	9%	53	454
5	Logar	150	73,155	56,360	16,795	23%	1,266	279	1,544	18%	47	489
6	Ghazni	390	197,101	141,099	56,002	28%	3,438	483	3,921	12%	50	505
7	Paktya	171	89,852	74,882	14,970	17%	1,525	46	1,571	3%	57	527
8	Nangarhar	244	228,845	155,926	72,919	32%	3,863	206	4,069	5%	56	939
9	Laghman	130	87,527	55,480	32,047	37%	1,927	186	2,113	9%	41	675
10	Kunar	241	81,412	56,787	24,625	30%	2,010	132	2,141	6%	38	338
11	Badakhshan	417	188,703	118,957	69,746	37%	4,675	1,172	5,847	20%	32	452
12	Takhar	291	189,252	121,268	67,984	36%	4,352	878	5,230	17%	36	651
13	Baghlan	289	204,656	137,926	66,730	33%	3,281	998	4,279	23%	48	709
14	Kunduz	229	197,196	134,252	62,944	32%	2,979	613	3,592	17%	55	861
15	Samangan	210	63,392	45,344	18,048	28%	828	353	1,181	30%	54	301
16	Balkh	303	267,772	164,341	103,431	39%	3,713	3,217	6,930	46%	39	883
17	Jawzjan	222	121,659	79,345	42,314	35%	2,392	1,628	4,020	40%	30	549
18	Faryab	282	139,967	95,628	44,339	32%	2,794	1,181	3,975	30%	35	496
19	Badghis	164	53,097	43,073	10,024	19%	866	140	1,006	14%	53	323
20	Herat	432	343,233	222,093	121,140	35%	5,028	3,191	8,219	39%	42	794
21	Farah	163	56,835	40,178	16,657	29%	1,208	367	1,575	23%	36	348
22	Nimroz	71	39,493	31,795	7,698	19%	666	256	923	28%	43	555
23	Hilmand	268	109,426	102,844	6,582	6%	1,701	49	1,750	3%	63	409
24	Kandahar	256	102,796	83,959	18,837	18%	2,471	322	2,792	12%	37	401
25	Zabul	174	71,617	39,020	32,597	46%	1,399	52	1,450	4%	49	412
26	Uruzgan	163	48,123	40,258	7,865	16%	702	21	723	3%	67	295
27	Ghor	311	69,238	56,447	12,791	18%	1,624	76	1,700	4%	41	223
28	Bamyan	172	54,793	36,249	18,544	34%	1,274	347	1,621	21%	34	319
29	Paktika	281	71,690	65,550	6,340	9%	1,624	11	1,635	1%	44	255
30	Nuristan	136	25,787	16,863	8,924	35%	507	90	597	15%	43	190
31	Sari Pul	283	75,757	54,738	21,019	28%	1,506	371	1,877	20%	40	267
32	Khost	141	86,793	80,200	6,593	8%	1,769	70	1,839	4%	47	615
33	Panjshir	28	8,331	3,947	4,384	53%	201	119	320	37%	26	295
34	**Afghanistan**	**7650**	**4,554,389**	**3,085,779**	**1,468,610**	**32%**	**77,534**	**29,427**	**106,961**	**28%**	**43**	595

2.17 In addition to constraints on the overall supply, there are concerns about the quality of the existing supply of services. Although no output indicators (student learning achievement, completion rates, etc.) are available to ascertain the current status of the quality of education in Afghanistan, the available input indicators (teachers' backgrounds, curriculum, textbook quality and availability, status of physical learning space, time on task, etc.) indicate that the quality of education is poor. According to the 2004 school survey, only 14% of permanent teachers *("karmand")* had two years of education beyond high school. About half of them are high school graduates or equivalent, and one-third have the qualification of grade-11 education or below. In addition, approximately one-third of schools run double shifts and 23% of schools triple shifts. While this does not mean that teachers in these double- or triple-shift schools actually teach double or triple shifts (usually they have different teachers for different shifts), some actually teach more than one shift. This often has a negative impact on the quality of teaching, as teachers do not or cannot spend enough time on preparation and tend to be more tired. Finally, non salary expenditures in schools represent less than 10% of operating expenditures (see below).

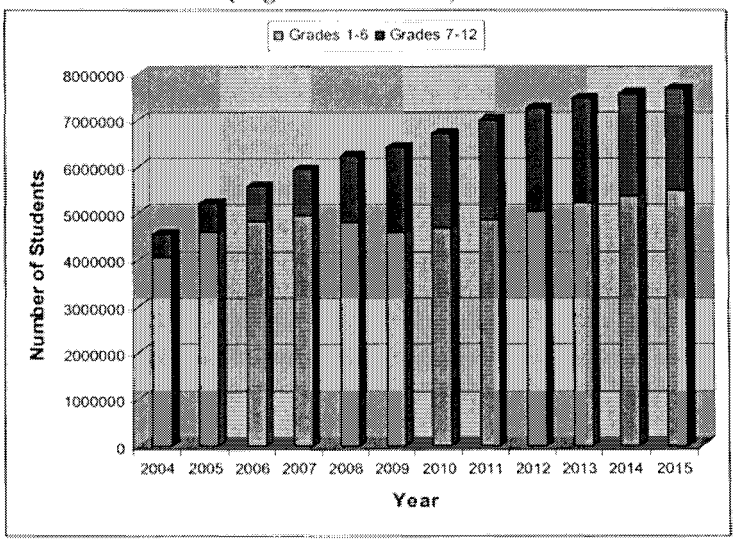
2.18 Overall, the lessons learned from other post-conflict countries suggest that an early focus on the quality of education - not only access - is key for rebuilding the education sector and gaining the confidence of parents that the system can deliver. In Afghanistan, this is particularly important because parents need a good reason to keep their children in school as the opportunity cost is high.

2.19 Reform in the quality of education is taking place. MoE is implementing a comprehensive and systematic Teacher Education Program (TEP) which aims to address teacher education requirements in Afghanistan in a coordinated manner with support from multiple donors. It includes the development of teaching standards and a unitary teacher education curriculum as well as a national in-service training system. It will also include the development of a national pre-service teacher education system addressing issues of institution accreditation and individual teacher certification. Curriculum and textbook revision also started in 2003. The new curriculum framework has been developed for primary education, new textbooks for grades 1, 2, 4, and 5 have been completed, and work is ongoing on textbooks for grades 3 and 6.

2.20 Demand-side constraints for school enrollment and attendance also exist: parents cited the need for children's "domestic work" (17.2%), education being "not necessary" (15%) and "household income" (7.1%) as the reasons their children were not enrolled in schools (Table 2.4). Children who work or who are orphans have a higher risk of not being enrolled (NICS, 2003). To address these issues, some programs are in place, including, food for education for students, girls, and teachers, and social mobilization activities carried out by the SMCs and/or PTAs to encourage parents to send their children to schools. However, the impact of these interventions has not been systematically evaluated.

2.21 Demand is expected to grow in particular for secondary education in three years time. If the current cohort of students in primary education moves up through the grades without dropping out, and new students at age of six continue to flow into the system, the bulge of students is expected to move into secondary schools from 2008/2009 onward. In a high case scenario (95% or the appropriate age cohort start grade 1, drop out rate is less than 5% from grade to next in secondary education), the number of students graduating from grade 12 will be more than 200,000 by 2013 (Figure 2.6).

Figure 2. 6: Enrollment Projection (Grades 1-6 and 7-12)
(High Case Scenario)



Source: World Bank staff estimates.

b. Higher Education

2.22 Over the past three years, the Government has made notable efforts to revive the higher education sector in parallel with ongoing progress in primary and secondary education. Eighteen higher education institutions have reopened their doors, and enrollment has jumped from 4,000 students in 2001 to approximately 40,000 in the spring of 2005. As in the case of primary education, the enrollment profile is skewed, approximately two-thirds of students are in their first and second years. With students returning from Pakistan and other countries and students graduating from high schools, demand for higher education will also be on the rise, not only in terms of enrollment but also in terms of relevance of curricula and quality of teaching.

2.23 There is an urgent need for well-educated and trained leadership in all sectors of the economy. First, there is a critical shortage of professionals such as engineers, technicians, administrators, accountants, agriculturists, and business leaders. It is an essential and immediate need for the country to begin to develop these human resources. Second, higher education constitutes the apex of the education system and sets the quality standards for the rest of education. It is university professors who provide the key content for many textbooks and reading materials. It is university graduates who teach in senior secondary schools, which in turn produce primary school teachers. It is essential to build a tradition of academic quality at this level in order to rebuild the quality tradition for the rest of the education sector. Third, because institutions take a long time to build, the development process needs to start at the outset, in order to cope with the rising demand for the future.

2.24 On the supply side, given the size of the country and its economy, there are far too many higher education institutions in Afghanistan (Table 2.6). Not surprisingly, many of them would not qualify as tertiary level institutions under any international standard or norm. The average enrollment is 1,983 students per institution, and three institutions have less than 200 students. Some institutions appear extremely inefficient, with student to professor ratios of 4 to 1 in Kunduz Pedagogic Institute and 6 to 1 in Bamyan and Paktya Universities. The limited resources allocated for higher education are spread out too thinly. In 2003, MoHE merged the university and the pedagogic institute in four provinces. This kind of

consolidation facilitates the possibility of institutions attaining a size that is economically viable and thus leads to a better chance of reaching reasonable quality standards.

2.25 Similarly to lower levels, the quality of supply is also problematic if judged by a number of input indicators. The proportion of PhDs in the faculties is very low (0% in several of them). Also, higher education institutions in Afghanistan do not have a tradition of linkages with the productive sectors. Faculties and departments work in isolation from employers. Neither the universities nor the polytechnics have a Board of Trustees with representatives from the world of employment and civil society. Creating such linkages and conducting tracer studies on a regular basis will be an important aspect of improving the relevance of higher education programs.

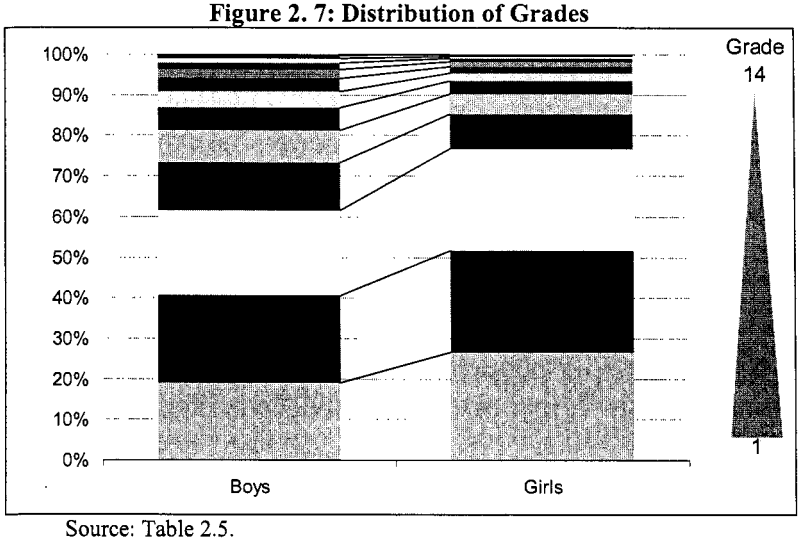
2.26 While the demand for higher education is rising, as shown in the increase in enrollment during the past three years, it will still be manageable for the next 6-8 years, as the stock of students who are in secondary schools remains small. The demand is expected to rise substantially from 2012 or so onward, when the current bulge of students in Grades 1-4 move up to the university entrance level (Figure 2.7).

Table 2. 6: Summary of Students and Professors in Tertiary Education in Afghanistan (2004/2005)

Type		Institution	# of Faculty	Students			Teaching Faculty					Students / prof (FTE) ratio
				Total	% in 1st year	% female	Total	% female	% Bachelor	% Master	% PhD	
Pedagogical Institute	1	Badakhshan	2	527	62%	32%	17	47%	94%	6%	0%	31
	2	Baghlan	2	949	55%	18%	22	9%	100%	0%	0%	43
	3	Faryab	2	291	36%	52%	30	33%	100%	0%	0%	10
	4	Jowzjan	4	756	30%	46%	47	28%	64%	36%	0%	16
	5	Kunduz	2	70	94%	43%	18	28%	89%	11%	0%	4
	Sub-Total		**12**	**2,593**	48%	34%	**134**	**28%**	**85%**	**15%**	**0%**	19
University	1	Al Beroni	7	2,037	49%	9%	58	7%	78%	21%	2%	35
	2	Balkh	8	4,773	26%	34%	228	21%	61%	38%	2%	21
	3	Bamyan	2	144	100%	3%	26	12%	62%	31%	8%	6
	4	Herat	9	2,777	32%	30%	144	9%	82%	17%	1%	19
	5	Kabul	14	8,412	36%	19%	473	17%	59%	31%	10%	18
	6	Kabul Education	5	3,848	34%	46%	145	30%	57%	38%	5%	27
	7	Kabul Medical	3	3,118	3%	23%	201	9%	25%	74%	1%	16
	8	Kabul Polytechnic	3	2,365	18%	3%	119	5%	7%	73%	29%	20
	9	Kandahar	4	1,192	30%	0%	68	6%	68%	29%	3%	18
	10	Khost	9	1,132	51%	0%	37	0%	49%	43%	8%	31
	11	Nangarhar	9	3,878	25%	5%	261	3%	59%	39%	2%	15
	12	Paktya	1	50	100%	0%	9	0%	78%	0%	22%	6
	13	Takhar	4	467	35%	16%	24	0%	85%	13%	4%	19
	Sub-Total		**78**	**34,193**	30%	21%	**1,793**	**13%**	**55%**	**39%**	**6%**	19
GRAND TOTAL			**90**	**36,786**	32%	22%	**1,959**	**14%**	**57%**	**38%**	**5%**	19

Source: Ministry of Higher Education data, 2004.

Figure 2. 7: Distribution of Grades



Source: Table 2.5.

B. The Government's Strategy and Policies in the Education Sector

RATIONALE FOR PUBLIC INTERVENTION

2.27 While public intervention and financing in education is often taken for granted, it is useful to review briefly the grounds on which the use of public resources in the education sector can be justified. Conventionally, the arguments of both economic efficiency and equity have been used. First, public intervention is justified on efficiency grounds when reliance on private markets would be socially less than desirable, because of externalities, public goods, non-competitive markets, and lack of information for "consumers". Indeed, in addition to positive benefits captured by the individual (e.g. higher wages, higher social status, etc.), education has positive externalities for the collectivity, such as better health practices that limit the spread of infectious diseases and decrease maternal and child mortality, higher voter participation, contributions to research and development, etc., and these larger benefits are underestimated by individuals. Second, public intervention can also be justified through a concern with the equity of the distribution of services, i.e. to help people that cannot afford to send their children to school or to a university. While in theory there should be a financial market to provide this financing, currently it does not exist in Afghanistan and is likely to remain weak in the foreseeable future. Nevertheless, each of these cases for public intervention needs to be made carefully. None justifies the complete subsidization of services: an equally important question to "why" the government should intervene is "how" – i.e. the form of public intervention.

2.28 From a legal perspective, the new Constitution of Afghanistan provides a right to education for every citizen of Afghanistan up to the undergraduate level. Afghanistan is a signatory of the International Convention of the Rights of the Child, which stipulates that the state should make primary education compulsory and available free to all. The new Constitution specifies grades 1-9 as compulsory education.

2.29 In the case of education in Afghanistan, it is argued that key government functions would include: provision of services (managed at different levels of sub-national administration); financing, regulation, information gathering and dissemination; and creating incentives for communities and the private sector to participate. Currently the core educational service in the education sector -- namely management of teaching learning in schools -- is mainly provided by the Government. Privately-provided schooling opportunities are very limited. However, NGOs and private contractors provide services in the form of

building schools, organizing teacher training, printing textbooks, etc. This form of public-private partnership is and will be critical for education in Afghanistan. There have also been home-based schools supported by NGOs, especially for girls, and they will likely remain important in certain provinces for some years to come.

2.30 For primary education, which is compulsory and most critical part of the entire education system, Government financing and provision remain important. However, for secondary and higher education, where private rates of return are higher than in primary education, private financing and provision will become increasingly important. This is especially the case in Afghanistan at present, where public financial resources are very modest and the implementation capacity of the Government is limited. The Government should consider the option of encouraging the private sector to enter and provide educational opportunities at secondary and higher levels in order to lessen the pressure on the Government and to increase the opportunities for students. This of course requires a proper regulatory framework to protect equity and quality.

GOVERNMENT'S STRATEGY IN THE SECTOR

2.31 Since 2002 a number of "policy" documents have been prepared by the Ministries of Education and Higher Education, special commissions, and the Transitional Islamic State of Afghanistan. They include: a report by the High Commission for Education (2003), a draft medium-term policy framework by the Ministry of Education (2004), Technical Annex on Education in Securing Afghanistan's Future (2004), and the Strategic Action Plan for the Development of Higher Education 2004-2008 (2004). These documents outline a vision to provide good-quality education for all and opportunities for secondary and higher education of international standard. However, the new Ministry of Education, after President Karzai was elected, has not yet made any official statement with regard to the policy or strategies for the education sector. In primary and secondary education, a coherent and comprehensive sector strategy is yet to be developed by the new Islamic Republic of Afghanistan.

2.32 MoHE has prepared a strategic plan for the higher education sub-sector from 2004 to 2015. The strategy forms a good foundation, although it will benefit from further prioritization and sequencing of activities. The draft higher education law has also been prepared by the Ministry. The draft law stipulates the responsibilities of the state, public and private providers, with an emphasis on increased institutional autonomy and accountability of higher education institutions. It classifies different types of higher education institutions, and provides a framework for their organizational structures. Furthermore, for the first time ever, the Government is allowing private institutions to operate in Afghanistan. For example, the American University in Afghanistan is currently being established, and it is expected to open its doors to students in the spring of 2006. The adoption and implementation of the law will be a major step forward in the reform and revitalization of the higher education system in Afghanistan.

C. Fiscal Shape of the Education Sector

PUBLIC SPENDING ON EDUCATION

2.33 The Government has spent a large portion of its public financial resources on the education sector over the last three years. The operating budget increased by 250% from 2002/03 to 2005/06. Teachers constitute one of the largest portions of the civil service. The budget for MoE, however, has been declining both in absolute terms and as a share of the total ordinary budget. The share decreased from 22.7% to 17.3% between 2003/04 and 2005/06. It somewhat increased for MoHE over the same period.

Table 2. 7: Total Ordinary Budget for Education (AF million) and its Share of the Total Ordinary Budget

	2002/03		2003/04		2004/05 Planned		2004/05 Estimates		2005/06	
Ministry of Education	1,912	12.2%	5,630	22.7%	6,000	19.8%	5,084	19.1%	5,705	17.3%
Min. of Higher Education	183	1.2%	331	1.3%	342	1.1%	388	1.5%	591	1.8%
Total Ordinary Budget	15,623		24,750		30,332		26,605		32,883	

Source: Ministry of Finance.

2.34 The tables below show the allocation of the ordinary budget for the education sector by economic categories. For MoE, approximately 90% of the recurrent budget during the past three years has been allocated and spent for teachers' salaries. For the MoHE, approximately 50% spent for salaries and 40% for the running cost and food at dormitories. Similar to MoE, less than 10% has been allocated and spent for non-salary and non-dormitory expenditures. Very little resources are available for the purchase of indispensable pedagogical inputs such as internet access, textbooks, journals, and lab materials. Available resources such as classroom space are not used efficiently, and most university classes finish at 1:00 pm. In addition, the public universities are unable to charge tuition fees as the new Constitution guarantees free education up to the undergraduate level. As a consequence, financing and per-student expenditures for higher education are very limited.

Table 2. 8: Allocation of Ordinary Budget by Category 2003/04-2005/06: Ministry of Education
(in millions of Afghanis)

	Total	Wages and Salaries		Goods and Services		Acquisition of Assets		Reserves
2003/04	**3,432**	3,271	95%	121	4%	40	1%	
2004/05 Planned	**6,000**	5,100	85%	750	13%	150	3%	
2004/05 Actual	**5,084**	4,757	94%	250	5%	77	2%	
2005/06 Planned	**5,705**	4,955	87%	600	11%	150	3%	

Source: Ministry of Finance.

Table 2. 9: Allocation of Ordinary Budget by Category 2003/04-2005/06: Ministry of Higher Education
(in millions of Afghanis)

	Total	Wages and Salaries		Goods and Services		Acquisition of Assets		Reserves
2003/04	**340**	176	52%	156	46%	7	2%	
2004/05 Planned	**342**	178	52%	158	46%	7	2%	
2004/05 Revised	**388**	204	52%	181	47%	3	1%	
2005/06 Planned	**591**	355	60%	226	38%	9	2%	

Source: Ministry of Finance.

Table 2. 10: Proposed Development Budget for Education and Vocational Training (million US$) and its Share of the Total Development Budget

	2003/04		2004/05		2005/06	
Education and Vocational Training	250	15%	475	18%	600	16%
Total Investment Budget	1,718		2,680		3,666	

Source: Ministries of Finance and Education.

2.35 In terms of actual expenditures of the ordinary budget (recurrent cost) in 2004/05, 94% of the budget is spent for salaries for teachers and administrative staff and only 5% is spent for non-salary expenditure. If the recurrent expenditures in the development budget (textbook printing and teacher training) are added, the share of non-salary expenditure increases to 15%. However, it is still much below the Education for All (Fast Track Initiatives) "benchmarks" of the share of the non-salary expenditure at 33%. Materials such as textbooks, stationery for the schools, students' kit, etc., are all provided to schools "in kind" by MoE, NGOs, or UN agencies such as WFP (World Food Program) and UNICEF.

2.36 The requested amount of development (investment) budget for education and vocational training, which includes requests from the Ministries of Education, Higher Education, and Labor and Social Affairs, has been increasing since 2003/04. However, the development budget is not fully funded, so this increase means very little in practical terms. The development (investment) budget of MoE for 2004/05 was $187 million (requested amount), half of which was actually disbursed by the end of the fiscal year. Eighty-nine percent of the disbursed amount was spent for infrastructure, mainly school buildings. Key program activities in the development budget of the education sector are shown in the following table. The request from MoE and MoHE for investment budget in 2005/06 has increased to more than six times of the actual expenditure in 2004/05; this appears unrealistic both in terms of availability of funds and the absorption capacity.

Table 2. 11: Ministry of Education, Development Budget 2004/05 and 2005/06

		2004/05			2005/06		
Sub-Program	**Key Activities**	**Exp Request**	**Funding Allocation**	**Disburse-ment**	**Exp Request**	**Funding Allocation**	**Disburse-ment**
Education policy and reform	TA for policy development and reform, EMIS, project management	0.92	0.42	0.50	6.62	2.49	
Education Infrastructure	Rehabilitation and construction of school buildings, universities, teacher training colleges, PEDs and DEDs	138.16	89.74	79.40	438.28	52.19	
Curriculum, material and teacher development	Training of teachers, textbook printing, teaching learning materials	17.02	12.59	9.41	27.39	13.19	
Equipment	Laboratories for schools, library books	0.18	0.13	0.04	60.97	5.76	
Vocational & technical education, Non-formal education	Vocational education, technical training, literacy programs	11.27	11.79	1.58	51.65	15.54	
Capacity building	Capacity building, training, scholarships	19.61	6.61	7.07	52.11	14.81	
Total		**187.15**	**121.28**	**98.00**	**637.02**	**103.98**	

Source: Ministry of Education.

INTERNATIONAL COMPARISON

2.37 Compared with other countries in the South Asia region (Table 2.12), education's share of public expenditure in Afghanistan is average if one excludes the external budget, but low once it is included (the external budget includes significant security expenditures and large infrastructure investment projects). However, countries in the South-East Asia region such as Malaysia and Thailand allocate more than 20% of the public expenditure for education, well above the 14% of core budget spending on education in Afghanistan. The share of the education budget in public expenditure, irrespective of key educational

output indicators in Afghanistan such as enrollment and completion ratios remain among the worst in the world (Table 2.13).

Table 2. 12: International Comparison of the Education Spending 2000/2001

Country	Share in the GDP (%)	Share in the Public Expenditure (%)	Data source
Afghanistan*	2.0 / 3.7	14.0 / 6.6	4
Bangladesh	2.4	15.5	1
Cambodia	1.8	-	1
India	4.1	12.7	2
Indonesia	1.2	9.0	1
Iran	4.9	17.7	1
Malaysia	8.1	20.3	1
Nepal	3.4	14.9	1
Pakistan	1.8	7.8	2
Philippines	3.1	17.8	1
Sri Lanka	1.3	-	2
Tajikistan	2.8	17.8	1
Thailand	4.6	27.5	1
Timor-Leste	-	-	
Turkey	3.7	-	2
Vietnam	3.4	14.8	3

UNESCO (2005); UNDP (2004); Social Republic of Vietnam and the World Bank (2005); and Ministry of Finance, Afghanistan (first number = core budget only; second number = total, including external budget)

Table 2. 13: Primary Completion Rate: International Comparative Data 1990 and Most Recent Years

Country	Years in Primary Cycle	1990				Most Recent Year				Progress Rating
		Girls	Boys	Total	Year	Girls	Boys	Total	Year	
Afghanistan	6	14	29	22	1989	0	15	8	1999	Seriously off track
Bangladesh	5	47	54	50	1990	72	68	70	2000	On track
Cambodia	6	32	46	39	1997	na	na	70	2000	On track
India	5	61	78	70	1992	63	88	76	1999	Off track
Iran	5	88	101	94	1990	89	95	92	1996	Off track
Korea	6	96	96	96	1990	98	95	96	2000	Achieved
Malaysia	6	91	91	91	1900	90	89	90	1994	Off track
Nepal	5	29	67	49	1988	58	70	65	2000	Off track
Pakistan	5	30	57	44	1989	na	na	59	2000	Off track
Philippines	6	91	88	89	1989	na	na	92	1996	On track
Sri Lanka	5	94	106	100	1990	114	108	111	2001	Achieved
Tajikistan	4	na	na	na		75	80	77	1996	Off track
Thailand	6	90	95	93	1990	na	na	90	2000	Off track
Timor-Leste	6	na	na	na		43	55	54	2001	Off track
Turkey	5	82	99	90	1900	89	95	92	1994	On track
Vietnam	5	na	na	na		98	104	101	2001	Achieved

Source: Achieving Universal Primary Education by 2015: A Chance for Every Child
na: not available
Note: Rating is based on the 2015 PCR estimated using the historical trend of increase in the PCR (PCR annual increase)

PUBLIC FINANCE AND GENDER AND REGIONAL EQUITY

2.38 Eighty percent of the ordinary budget is spent in the provinces while the remaining of 20% is spent in MoE in Kabul (Table 2.14). By contrast, the non-salary portion of the recurrent budget expenditure is split 66% in provinces and 34% in MoE.

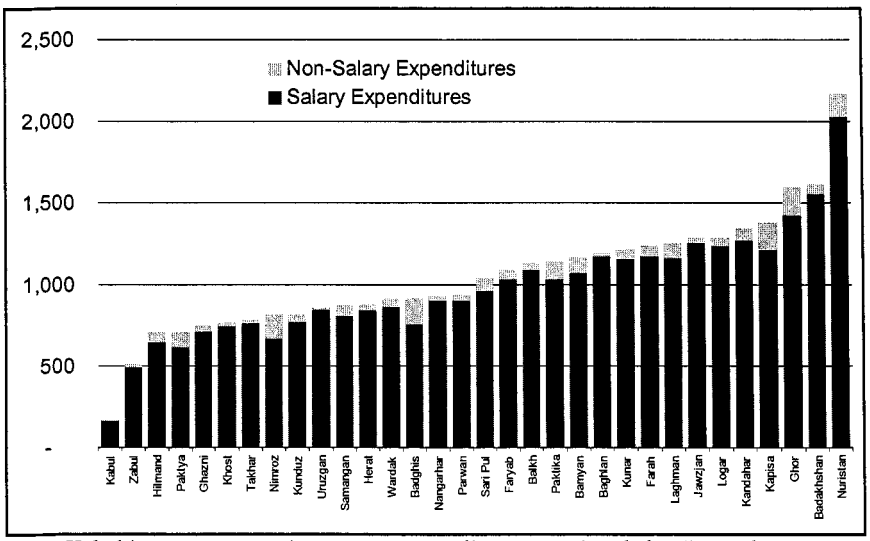
Table 2. 14: 2004/05 Ordinary Budget Expenditure: Central MoE vs. Provinces (Afs)

	Salaries and Allowances	Non-Salary	Grand Total
Center	902	109	1011
MOE	19%	33%	20%
Provinces	385	217	4072
	81%	67%	80%
Total	4756	326	5083
	100%	100%	100%

Source: MoF / AFMIS

2.39 Significant disparities seem to exist in educational inputs and outputs by province and urban-rural locations. As shown in the Figure 2.3, for example, the net enrollment ratio is as high as 85-87% in Kabul, Herat, and Mazar cities for Grades 1-6 (an average of boys and girls) whereas it is 20% or below in Badghis, Hilmand, and Urzugan provinces. Figure 2.8 highlights significant disparities with regards to per student recurrent expenditure across provinces. The Education Public Expenditure Tracking Survey shows that the bulk of non-salary expenditure is provided in kind by the UN agencies and NGOs, with significant disparities across provinces.

Figure 2. 8: Operating Public Expenditure per Student (Afs. in 2004/05)



Note: Kabul is not representative as some expenditures are miscoded to "central government" as opposed to Kabul province. Source: 2004 school survey for number of students and MoF for expenditures per provinces.

2.40 Currently, the Government ordinary budget for primary and secondary education is not specifically targeted at poor or female students. Some provinces, districts, or schools try to recruit more female teachers (which is an important element in encouraging girls' education, Figure 2.5), but these efforts are not systematic and there is no clear policy or strategy from the central MoE. The World Food Program (WFP) provides food for education, some of which is targeted at female students and teachers.

2.41 To address equity issues and also improve the transparency and accountability of the system, it is critical that the MoE moves towards a simple formula based funding, for example, budget allocation to schools and/or provinces based on per student number.

D. Implementation Issues and Accountability Framework

2.42 From curriculum development to teacher training, approval of the recruitment of teachers and administrative staff, development, production and distribution of textbooks, and especially planning and management of the budget, MoE in Kabul manages most decision-making. Some production functions related to the supply of education, such as school construction, textbook printing, and teacher training, have been outsourced to private contractors and NGOs. This form of public-private partnerships appears to have been instrumental in generating efficient services without compromising the Government's legitimacy or increasing the size of civil service. NGOs' contribution in mobilizing communities and establishing PTAs and SMCs also has been useful. The challenge remains how to delegate some administrative functions, such as operations and maintenance of school buildings and management of associated expenditure, school mapping and selection of construction sites, implementation of teacher training activities, to province, district, and school levels.

BUDGET PROCESSES

2.43 The recurrent budget of the education sector n the last three years has been prepared in a rather arbitrary fashion including "bargaining" between the MoF and MoE. Mainly the Minister of Education and the Director of Administration and Finance in MOE are involved in the preparation of the budget. Consultations with line departments and Provincial and District Education Departments in the budget preparation process have been minimal.

2.44 Approximately three months before the end of the fiscal year, individual schools prepare an assessment of the number of staff that they will require in the following year. This is based on current staff on the payroll, expected number of new students in the following year, retirement of staff, etc. Schools submit this *tashkeel* request to the District Education Department (DED). The *Tashkeel* includes four categories: (i) permanent teacher staff (teaching *karmand*); (ii) contract teaching staff (teaching *agir*); (iii) permanent administrative staff (staff *karmand*); and (iv) contract administrative staff (staff *agir*).

2.45 The DED verifies the *tashkeel* submitted by the schools, through visits to schools or discussions with principals, and then forwards the request to the Provincial Education Department (PED). In some cases the DED prepares a summary of the total *tashkeel* for its district, whereas in other cases the DED merely forwards to the PED individual school requests with their sign of approval. On the basis of the *tashkeel* received from the different districts, the PED prepares a consolidated request for the province as a whole and forwards it to MoE. MOE makes a budget based on the average cost of a staff member and submits both the salary-budget request and the staff request to MoF. On the basis of several rounds of consultations, MoF finally approves the total *tashkeel* that can be recruited by the MOE, and the total budget of the MOE separated into different spending categories.

2.46 MOE on the basis of the total approved staff allotment and budget, *tashkeel* request from Provinces, performance of each province in the previous year and its own experience, allots to each Province: (i) staff that can be recruited and (ii) the budget that can be spent. On the basis of the annual allotment, the MOE also prepares a quarterly *takshis* by Province outlining the staff that can be paid and

the budget that can be spent under different account heads. MOE then sends the details of the quarterly *takshis* and the total staff allotment to the individual Provinces and the Provincial *Mustoufiat*. This has generated some confusion as MoF usually also transmits these details to its *Mustoufiats*, with the data not always reconciled.

2.47 The PED on the basis of the staff allotment received prepares a plan for recruitment of the additional staff. Teachers and staff are appointed by the Province and sent to individual schools based on priorities decided by the PED. In case adequate qualified teachers are not available at the Province level, the Province instructs the schools to directly appoint a specific number of contract staff (a*gir*). The schools receive applications from local youth and appoint them as contract staff. Once the permanent staff is allotted by the PED, these contract staff are let go.

2.48 According to the Education Expenditure Tracking Survey, 50% of sampled schools, 53% of districts, and 89% of Provinces reported that they had prepared a *tashkeel* requesting staff for 2005/06. But only 6% of schools, 17% of districts and 55% of Provinces reported that they had prepared non-salary budgets for 2005/06. MOE prepares the budget by extrapolating from the previous year's actual expenditure and adding costs of certain large requests received from Provinces.

2.49 Schools are more involved in the actual expenditure than in the planning of non-salary budgets. For all non-salary payments (e.g. purchase of desks, purchase of stationery, purchase of oil for vehicle, repair of windows), the school prepares a request giving details in a standard form and sends it to the DED. This request may or may not have estimate of the financial cost of the request. The DED after verifying the legitimacy of the request and making its own estimate of cost (in case the school has been unable to do so) forwards it to the PED. The PED, once convinced of the necessity of the request and that they have adequate budget for its requests the *mustoufiat* to pay the amount. The school then collects the amount from the *mustoufiat* and incurs the expenditure.

2.50 A major challenge in channeling non-salary recurrent budget to schools is an efficient flow of funds to schools using the Government system. There has been some confusion among MoE, MoF, PEDs, and *mustoufiats* about necessary steps, authorized signatories, and forms to be completed, which has resulted in delays in fund transfer.

2.51 The development budget of the education sector (which includes some recurrent spending such as teacher training costs, textbook printing) has been prepared by key departments in MoE in consultation with donors. First, the Minister organizes a meeting with directors of various departments (construction, teacher training, compilation and translation, planning, administration and finance, vocational education, etc.) and instructs them to prepare the list of projects and budgets. Once such project proposals and budgets are prepared, the list is simply complied without much deliberation or effort at prioritization or consolidation. Meanwhile, donors also prepare a list of possible projects to support in light of the MoE lists. The Minister and directors of MoE meet with donors and discuss the budget proposals. It is MoE that makes the final decision on the projects to be included or dropped in the final submission to MoF. MoE negotiates with MoF on the "ceiling" of the budget although the development budget is not fully funded.

2.52 For higher education, the Director of Planning in MoHE takes the lead in preparation of the budget. The participation of the universities in preparation of both recurrent and investment budgets has been limited. It is striking that the Deputy Chancellor responsible for administration and finance in Kabul University in 2004/05 was not aware of the budget amount for Kabul University. Chancellors of other universities similarly are not aware of their recurrent budget. Until 2004/05, the chancellors of universities were authorized to sign purchase requests only up to the Afs 1,000, and any procurement above this amount had to be authorized by MoHE. This ceiling was subsequently raised, however.

CAPACITY OF THE MINISTRIES

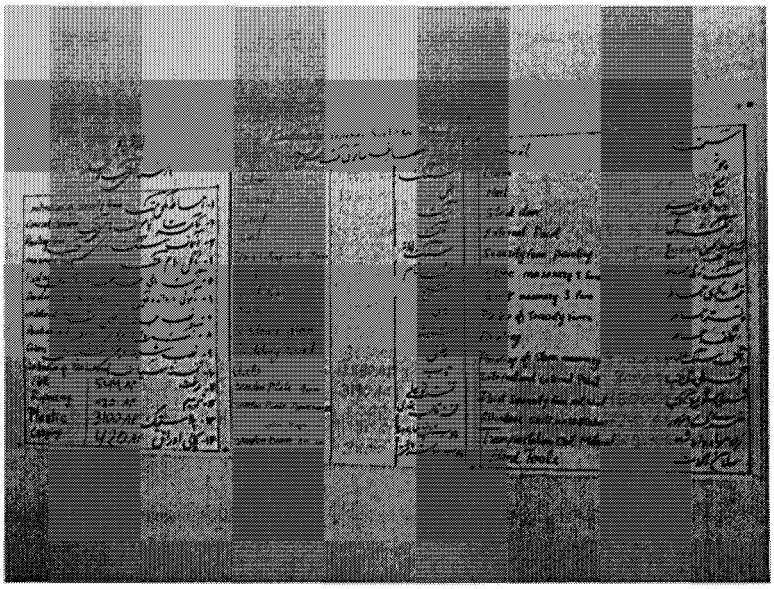
2.53 The capacity of MoE and MoHE remains weak in terms of preparing the budget, implementing and overseeing public expenditure in the sector, and achieving good real learning outcomes. For example, the drastic increase in the 2005/06 budget without corresponding implementation capacity and funding is an indicator of weak technical and administrative capacity of these Ministries. The low investment budget is partly a reflection of the sector's limited absorption capacity. The Education Consultative Group has been dysfunctional since the summer of 2004. and coordination among and between the ministries and donors is weak. The different and often short budget cycles of donors provide little budget predictability for MoE and MoHE.

2.54 MoE is currently preparing its second-stage proposal for the Priority Restructuring and Reform (PRR) program (the Government's targeted administrative reform program). The proposal mainly focuses on the configuration of the Ministry in Kabul, e.g. a reduction of the number of departments and appointment of the secretaries as chief executive officers while the Minister and Deputy Ministers remain political positions. It does not address the issue of the relationships between the central Ministry, Provincial Education Departments, District Education Departments, and schools.

2.55 The accountability framework in the education sector is weak, but improving gradually. The Education Management Information System (EMIS) has been set up in MoE (see next section) and is expected to enhance accountability by generating more information. In addition, visits to schools by PEDs and DEDs appear to contribute to better monitoring and also timely provision of necessary support.

2.56 It is critical that the Government adopts an approach for achieving quality education for all, which includes broad-based participation at all levels of Government administration (national, provincial, and district) and communities (schools) in taking responsibility for planning and implementation of education services. The goal is to gradually introduce systems of mutual accountability between Government at different levels and communities for ensuring that schools are performing their best. An accompanying goal is to incrementally delegate greater decision-making and spending authority to provinces, districts, communities, and schools. In this way, all national stakeholders will be responsible for frank performance evaluations of the education system and for identifying problems and putting things right.

2.57 A first step has been the creation of School Management Committees (SMCs), in many provinces, which include the school principal, teachers' representatives, community leader(s), and a representative from parents. Seventy-three percent of schools surveyed in the Education Expenditure Tracking survey had SMCs. Some SMCs have developed their own school improvement plans, which summarize a simple strategic plan of the schools and prioritize key activities and needs. The schools in Badakhsan, Bamyan, Kapisa, Logar, and Parwan provinces, under a World Bank-financed project, have been provided with school grants to implement their plans. This is expected to be an annual grant, ranging from $1,000 to $10,000 depending on the number of students enrolled, with renewal subject to satisfactory performance. The progress of school grant implementation and the statement of expenditure is posted in the schools for transparency (see picture below as an example). Preliminary findings based on field visits and interviews indicate that this has enabled schools to obtain essential items in an efficient manner and has strengthened community involvement in school management.



2.58 Other accountability mechanisms which need to be strengthened include using Education Management Information Systems (EMIS) for monitoring and decision making, making budget and output reports available to stakeholders to increase transparency, and involving schools in budget preparation at the local level.

Monitoring of the Expenditure and Performance

2.59 The notion of planning, management, and performance indicators has been both foreign and weak in the education system. Efforts to develop a management system based on data and strategic thinking are beginning occur. MoE has established EMIS, which includes information about students, teachers, administrative staff, and school building and facilities from 7650 schools and 115,000 teachers. The system is available in Dari, Pashto, and English. This is expected to be a first step toward linking analysis and planning the Education sector, and rationalizing decision making. The plan is to roll out the EMIS to the province level. A similar effort is ongoing in MoHE.

2.60 The current fiscal classification of the education budget and expenditures, and lack of availability of expenditure data at the disaggregated level (especially by school), and the difficulty in ascertaining expenditure by sub-sector (primary, secondary, vocational, etc.) make the monitoring of public expenditure difficult. The initial steps needed are to: (i) develop a monitoring framework and instrument for budget execution, (ii) gather the information/data, and (iii) make it available in a simple but meaningful manner to all the stakeholders including the parents. For efficiency indicators, it is critical to carry out a quick evaluation of current interventions by various actors, including the Government, NGOs, and donors, especially for large expenditures such as school construction (see below).

2.61 Given the current problematic state of the education system, it may be premature to put an emphasis on student learning outcomes. Nevertheless, it is never too early to start thinking about simple learning outcome indicators, especially in the process of curriculum and textbook reforms.

The Role of the Private Sector

2.62 The private sector as provider of education services (i.e. private schools) is almost non-existent at the primary school level. A number of private specialized training schools such as IT and English

language training are springing up in major cities of Afghanistan. The legal framework to monitor and ensure the quality of services provided by these private schools is weak and should be developed. Beyond direct education service provision, the private sector could be used as contractors for school construction and textbook printing. Currently, different modes of school construction are implemented, but no systematic comparison of the different approaches is available. Before scaling up activities, an evaluation of the various approaches is essential.

E. Prospects

PRIMARY AND SECONDARY EDUCATION

2.63 The overall level of ordinary budget spending in education is considered adequate in terms of its percentage against total public expenditure and GDP. However, the non-salary portion of the ordinary budget remains marginal, and expenditure patterns do not show any particular strategy in terms of gender- or poverty-focus. Overall spending (disbursement) of the investment budget is rather low for the reconstruction needs of the country; this appears to be due to weak implementation capacity in the Ministries. Given the gigantic needs for reconstruction of schools and universities, capacity building of teachers and university professors, and the bulge of students moving up the grades, the investment budget and its expenditure need to be increased substantially and sustained at least for the next decade. The costing simulation below shows a steady increase in the requirement for both recurrent and investment costs from 2004 to 2015, based on the current number of students, teachers, and schools and a set of unit cost assumptions. It is anticipated that the total recurrent cost will increase to approximately $425 million (assuming teacher salaries increase at the same pace as per capita GDP); and investment costs will rise to approximately $255 million by the year 2015. The annual per student recurrent expenditure (excluding investment and technical assistance) is expected to rise from the current level of $31 to approximately $56 by 2015. The pace of this increase is in sync with, but slightly lower than, the anticipated growth of per capita GDP.

Table 2. 15: Key Parameters and Assumptions for Primary and Secondary Education

7,650	Number of schools in 2004*
2,570	Number of schools to be built (schools are open registered but have no permanent buildings)
1,132	Number of schools requiring major renovation
567	Number of schools requiring minor renovation
5	Annual percentage increase in number of schools for 2004–11
8	Average number of classrooms per school
6,000	Average cost of major renovation of one classroom [US$]
3,000	Average cost of minor renovation of one classroom [US$]
9,000	Average cost of new classroom [US$]
1,000	Annual cost to maintain one school [US$]
15	Cost of desk and chair, per student [US$]
10,000	Cost of ICT and laboratory, per school
3,000	Unit cost of latrines and water supply system, per school
106,961	Number of teachers in 2004
40	Student/teacher ratio, primary schools (MOE target)
35	Student/teacher ratio, secondary schools (MOE target)
150	Average cost of in-service training and support package per year per teacher [US$]
4	Cost of textbooks, grades 1–3, per student
8	Cost of textbooks, grades 4–6, per student
10	Cost of textbooks, grades 7–12, per student
100,000	Support for provincial education departments, per department [US$]
50,000	Support for district education departments, per department [US$]

**The assumption employed in the simulation is that existing schools will be rehabilitated by 2007*

Table 2. 16: Costing Simulation for the Primary and Secondary Education: 2004-2015

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CAPITAL EXPENDITURE												
Reconstruction of the existing schools (fully destroyed)	27,756,000	37,008,000	55,512,000	64,764,000								
Rehabilitation: Major repairs	10,867,200	10,867,200	16,300,800	16,300,800								
Rehabilitation: Minor repairs	2,721,600	2,721,600	4,082,400	4,082,400								
Construction of the newly required schools					45,360,000	49,896,000	54,885,600	60,374,160	66,411,576	73,052,734	80,358,007	88,393,808
Temporary schools (tents)	25,000,000	25,000,000	10,000,000									
Latrines and water supply provision for existing schools	4,875,000	4,875,000	4,875,000	4,875,000								
Desk and chairs costs 20% of students each year	12,948,471	13,653,158	15,620,717	16,748,484	17,788,217							
ICT and laboratory development in schools				93,715,790	98,401,579	103,321,658	108,487,741	113,912,128	143,529,281	150,705,745	158,241,032	166,153,084
Subtotal for Capital Cost	84,168,271	94,124,958	106,390,917	200,486,474	161,549,795	153,217,658	163,373,341	174,286,288	209,940,857	223,758,479	238,599,039	254,546,892
Annualized per student capital cost	20	21	20	36	27	25	25	26	30	31	32	34
CAPACITY BUILDING/TECHNICAL ASSISTANCE												
TA & capacity building in MOE	5,000,000	5,000,000	5,000,000	5,000,000	3,000,000	3,000,000	3,000,000	2,000,000	2,000,000	2,000,000	1,000,000	1,000,000
Support for Province Education Depts.	3,300,000	3,300,000	3,300,000	3,300,000	3,300,000							
Support for District Education Depts.	16,500,000	16,500,000	16,500,000	16,500,000	16,500,000							
Teacher training & support package every year	16,044,150	17,333,393	19,863,740	21,344,784	22,755,789	24,165,912	25,056,461	26,231,181	27,375,300	28,385,310	29,217,211	29,567,691
Subtotal for CB/TA cost	40,844,150	42,133,393	44,663,740	46,144,784	45,555,789	27,165,912	28,056,461	28,231,181	29,375,300	30,385,310	30,217,211	30,567,691
Annualized per student CB/TA cost	9	9	9	8	8	4	4	4	4	4	4	4
OPERATIONAL EXPENDITURE												
Salary of Teachers	63,246,039	72,384,250	89,744,379	109,968,329	128,281,969	146,606,531	168,579,868	187,640,380	215,169,857	236,733,482	258,280,147	285,367,640
Maintenance of schools	7,650,000	8,185,500	8,758,485	9,371,579	9,840,158	10,332,166	10,848,774	11,391,213	11,960,773	12,558,812	13,186,753	13,846,090
Administrative expenditure at MOE, PED & DED	40,000,000	44,000,000	48,400,000	53,240,000	55,902,000	58,697,100	61,631,955	64,713,553	67,949,230	71,346,692	74,914,027	78,659,728
Expenditure on students Textbooks grade 1-3	11,787,648	12,111,773	11,421,762	10,354,871	9,835,701	10,157,480	10,562,351	10,984,845	11,424,239	11,801,873	12,113,690	12,359,406
Expenditure on students Textbooks Grade 4-6	5,785,458	6,148,870	10,324,931	13,381,858	14,993,074	13,568,395	11,671,119	11,684,362	12,098,752	12,580,203	13,083,411	13,606,748
Expenditure on students Textbooks Grade 7-12	4,050,020	4,982,978	6,306,434	7,638,008	9,716,345	14,380,397	18,339,550	20,137,046	21,241,164	22,069,663	22,594,821	22,111,904
Subtotal fro Operational Cost	132,519,165	147,813,372	174,955,990	203,954,645	228,569,247	253,742,069	281,633,617	306,551,399	339,844,015	367,090,725	394,172,849	425,951,516
Annualized per student operational cost	31	32	34	37	39	41	44	46	49	51	53	56
Total Requirements (Primary & Secondary)	257,531,586	284,071,723	326,010,647	450,585,903	435,674,831	434,125,638	473,063,419	509,068,868	579,160,172	621,234,513	662,989,100	711,066,099
Annualized per student cost	60	62	63	81	73	70	74	76	83	86	89	94

Source: Staff estimates.

HIGHER EDUCATION

The current proliferation of public higher education institutions and these total dependence on government financing, including for dormitory and food, is completely unsustainable. It is almost impossible to improve the quality of education as well as to expand access at tertiary level solely with public financing. Although the Constitution assures "free" education until the undergraduate level in public institutions, there need to be strategies for cost-sharing and approaches to user fees. In addition, the private sector should be encouraged to provide services within an appropriate regulatory framework and quality assurance mechanism.

F. Summary of Recommendations

Table 2. 17: Summary of Recommendations

Issues	Recommendations	Concrete Next Steps
Gender disparity in enrollment and attainment	▪ Address supply-side constraints: more schools (including satellite schools) in a close geographical proximity for girls, safe school environment with proper sanitary facilities, more female teachers. ▪ Develop targeted approaches, including demand-side strategies, in the provinces where girls' enrollment is low.	▪ Assign priority to girls schools and schools for both boys and girls section for school construction and rehabilitation. ▪ Review the impact of food for education for girls. ▪ Develop culturally and socially appropriate communication strategies to promote girls education. ▪ Develop strategies to recruit more female teachers where girls enrollment is low. Review teacher recruitment
Regional (among and within provinces) disparity in enrollment and attainment	▪ Develop more targeted financing programs. ▪ Explore options for demand-side interventions. ▪ Develop a simple formula based financing mechanism, e.g. per capita based	▪ Establish reliable baseline data on the educational input and output indicators by province/district.
Very poor quality of primary and secondary education	▪ Define quality standard, ascertain baseline, and monitor progress. ▪ Start monitoring learning outcomes. ▪ Increase non-salary recurrent budget and expenditure.	▪ Set a minimum standard for input quality at school level: teacher's qualification, school building standard, minimum textbook and learning materials requirement. ▪ Develop simple assessment tools. ▪ Increase non-salary recurrent budget and expenditure.
Expected rise in secondary education in 2008/09	▪ Accelerate curriculum and textbook reform for secondary education. ▪ Accelerate both pre- and in-service teacher training for secondary schools. ▪ Accelerate school construction for secondary schools with appropriate	▪ Begin the curriculum and textbook reform for Grades 7-9 immediately. Gather international good practice. ▪ Review the current qualification and experience of secondary teachers.

Table 2. 17: Summary of Recommendations

Issues	Recommendations	Concrete Next Steps
	laboratories and IT based on rational school mapping. ▪ Develop strategies and policies on private secondary education.	▪ Update and complete the GIS part of the EMIS. ▪ Organize consultations and debate on the role of the private sector in secondary education. ▪ Assess willingness and ability to pay for secondary education.
Poor quality and relevance of higher education	▪ Overhaul the academic programs and course structures, and substantially upgrade the qualifications of faculty members. ▪ Increase the overall level and efficiency of financing. ▪ Develop quality assurance and accreditation mechanisms for higher education institutions.	▪ Establish partnership arrangements (fellowships, scholarships, faculty exchange, TA for curriculum development) with foreign universities and faculties. ▪ Consolidate smaller institutions for efficiency gains and diversify sources of funding including cost sharing and recovery from users. ▪ Encourage private universities to enter to stimulate competition and to absorb excess demand. ▪ Examine quality assurance and/or accreditation bodies in the Region and explore possible linkages/partnerships.
Heavily centralized educational administration	▪ De-concentrate some of the administrative functions to PEDs and/or schools where it makes sense.	▪ Review the current functions at each level and identify inefficiencies. ▪ Assess the institutional capacities at each level of the educational administration. ▪ Increase the role of schools in budget preparation ▪ Increase reporting on budget management
Limited and unpredictable public financing for education	▪ Promote sector-wide approaches and harmonization of donor funding, financial management and procurement according to the national system, as appropriate. ▪ Develop regulatory framework to encourage private financing and provision, especially at secondary and higher levels. ▪ Charge user-fees for services such as dormitories, food, and examinations.	▪ Assess the current capacity and prospect for SWAp and capacity building requirements. ▪ Develop national education program strategy and framework with costing, prioritizing, and phasing of activities. ▪ Review international good practice in terms of the regulatory framework for private education, and tailor it to the Afghan context. ▪ Increase the institutional autonomy of universities for revenue generation.

CHAPTER 3. POWER SECTOR

Executive Summary

i. Demand for electricity is high in Afghanistan, from households as well as potential or existing investors. Despite poverty, numerous Afghans willingly are paying very high prices for power in areas not served by the country's small, fragmented electricity grids. Supply remains very weak. Only 10% of the population has access to grid-supplied power, one of the lowest ratios in the world. In addition, the quality of service is poor, including in Kabul. Technical losses, even though poorly measured, are very high.

ii. **The first challenge is to expand Afghanistan's power supply capacity**. This requires careful planning of investments as well as effective implementation. The existing Power Master Plan provides a rational sector plan for developing the supply of power, with an emphasis notably on the Northern Transmission Line to import low-cost electricity from Uzbekistan and later other Central Asia Republics. The Power Master Plan can be an effective vehicle for donor coordination. It is important that investments be made in line with this plan. In terms of effective implementation, this chapter identifies important challenges to develop the capacity of the Ministry of Energy and Water (MoEW) to implement and oversee this investment program, notably its capacity to budget and procure contracts (see below). Related to the issue of power supply expansion is the issue of geographical disparities. These are evident between cities, depending in particular on their geographical location with respect to access to imported electricity and/or existing hydroelectric facilities. But even more fundamental is the gap between urban and rural areas, so there is a need to develop a strategy to expand access to electricity in rural areas.

iii. **The second challenge is to operate and maintain these investments in an effective and sustainable way**. Cost recovery is critical in this respect. The average tariff collected by Da Afghanistan Breshna Moasessa (DABM) is currently of only five cents per kWh, compared to an average unit cost above 12 cents per kWh. A recent decision to reduce the power tariff in Herat has increased this gap. A clear tariff policy, aimed at moving toward financial viability, is required. Efforts should be made to improve billing and collection; Government agencies should set a good example in this regard. In addition, the management of operations and maintenance (O&M) will have to be modernized, possibly through some private sector participation.

iv. **Related to this issue is the need to restructure DABM**. In 2004/05, the utility showed a small positive net revenue, but this does not account for the fact that most of its operating costs (fuel supplies) are paid by donors, outside of DABM's accounts. Hence efforts to restructure and corporatize DABM should be given high priority. This entails the recruitment of a new management team, legal and regulatory reforms to corporatize the utility, and computerization of accounts, billing, and collection systems.

v. **Finally, institutional capacity needs to be built up**. Capacity development in the MoEW is a priority. The focus should be on (i) the capacity to oversee the investment program (notably by developing the planning, procurement, and financial management capacity of the Program Implementation Support Unit) and (ii) the capacity to regulate the sector. This also requires the Ministry to focus on these responsibilities, leaving other tasks to the private sector.

A. Service Delivery and Institutional Framework in the Power Sector

3.1 This review of public expenditures in the power sector focuses on the Ministry of Energy and Water (MoEW) and its State-Owned Enterprises (SOEs) which relate to the power sector. It excludes the irrigation sector which is part of the newly merged MoEW. Public expenditures are reviewed in the context of: (i) service delivery and institutional framework of the power sector; (ii) the Government's strategic and policy framework; (iii) the fiscal shape of the sector; and (iv) implementation issues and accountability framework. The chapter concludes with a summary of recommendations.

SERVICE DELIVERY

Table 3. 1: International Comparators: Electricity Consumption per Capita (kWh)

Afghanistan	**12**
Armenia	957
Azerbaijan	1750
Bangladesh	89
Congo Republic	48
India	379
Indonesia	345
Nepal	47
Pakistan	321
Sri Lanka	255
Tajikistan	2163
Turkmenistan	944
Uzbekistan	1650

Source: World Bank (2002).

3.2 **Access to Service**. The energy sector is characterized by a very low level of development both in terms of access to modern energy services and the institutional and technical capacity in the sector. Officially, only about 10% of the population has access to grid-supplied power – one of the lowest ratios in the world. This low level of access is also reflected in one of the lowest per-capita consumption rates of electricity (Table 3.1). Some 230,000 customers are connected to the public grid, of whom approximately 37% are in Kabul. The other provinces have even lower access rates, with rural areas virtually unserved.

3.3 These data reflects the number of so-called main consumers, i.e. those who have service contracts with the utility and whose consumption is supposed to be metered. The power supply code that was adopted some 20 years ago allows main consumers to provide power through their meters to so-called minor consumers. Statistics from the utility on the number of metered consumers understate the number of actual consumers, as a main consumer can connect several neighboring households (minor consumers) to his/her meter. Moreover, these statistics do not capture electricity provided by other (non-grid) sources, e.g. private generators, small diesel or hydro schemes not operated by the utility, etc. It is virtually impossible to assess but clearly access is extremely low by international standards the actual access to and consumption of electricity given the scarcity of reliable data in Afghanistan.

Table 3. 2: Summary of the Power Sector

Key Performance Statistics	
Installed Capacity	450 MW
Available	*271 MW*
Hydro	*261 MW (installed)*
Non-hydro renewable	*0 MW*
Peak Demand	n.a. Kabul = 160 MW (est)
Reserve Margin	0
Annual Generation	700 GWh (2004 est)
Annual Consumption	n.a.
Estimated demand growth/yr	8 %
Total losses	44 %
Customers	230,000 (official)
Household Access	10% Targets – 90% urban by 2015 33% overall by 2015
Key Sector Entities	
Da Afghanistan Breshna Moassese (DABM)	Generation, Transmission, Distribution, System Operations
Regulator	Ministry of Energy and Water
Bank Projects	
Emergency Infrastructure Reconstruction Project	$16 million for power component (closing Dec 2005)
Emergency Power Rehabilitation Project	$125 million (closing Jan 2009)

3.4 ***Quality of Service.*** Distribution systems in Afghanistan have suffered severely as a result of physical destruction, insufficient investment, lack of maintenance, and outright theft of materials over the last quarter-century. The substations and low voltage distribution networks are dismantled and overloaded; very few components of this system could be used in the future. Quality of supply is poor and technical losses are high. The existing facilities provide unreliable service, in most places for only a few hours a day. Of the about 450 MW of installed generating capacity, only 270 MW are available, and most of the units require overhaul or replacement. Most people meet their energy needs through reliance on non-commercial forms of energy such as biomass, supplemented with commercially available wood and coal. Recent years have seen the beginning of the rehabilitation of the country's power system, but many more years will be required before the power system will be able to function adequately and meet the economy's demand for electricity.

3.5 ***Technical Losses.*** The substations and low voltage distribution networks of Kabul and other cities are grossly inadequate, overloaded, and mostly outdated. Substantial reconstruction and expansion of the distribution systems, based on modern least-cost design concepts, will be required. Aside from this state of disrepair and network inadequacy, there is another issue which is resulting in high economic losses for Afghanistan. Kabul's public network currently supplies consumers through roughly 84,000 electricity meters. These are the meters of those customers which the electricity authority, Da Afghanistan Breshna Moasessa (DABM), has contracted to supply. However, the actual number of households and commercial properties which are connected to the network, while unknown, is clearly far in excess of 84,000. The meters are mainly mounted on the pole from which the customer is fed or grouped in metal cubicles placed on the walkways, and each measures the supply of electricity to the officially contracted customer. Besides the contracted customer, the meter also measures the supply to the several other consumers that the contracted customer may agree to have connected to his meter. Although it is known that illegal (and un-metered) connections exist, there is no good data on the extent

of this problem. The resulting extensive reticulation consists of very small diameter wires, which often run for hundreds of yards to the consumers' premises. The wire is procured and owned by the numerous consumers, and because of its small diameter and long length, it results in poor voltages and high technical losses, which if saved could be used to supply other consumers. This is especially important under the circumstances which prevail in Kabul, namely constrained generation supply and high marginal costs of production of about US¢ 18-28 per kWh (depending on the cost of fuel) compared to an average tariff of US¢ 2.1 per kWh.

3.6 ***Cost Recovery and Pricing Reform.*** The most recent data available from DABM (for 2004/05) indicate that the average effective tariff (revenue collected from sales of electricity per kWh of electricity billed) in Afghanistan is approximately US¢5.1 per kWh (if the utility's miscellaneous revenue is included, the figure rises to US¢ 5.5/kWh), while the utility's costs expressed in terms of kWh billed is US¢ 12.3. There is, thus, a significant gap between costs and revenue on a system-wide aggregate level. These averages, however, conceal large regional variation and are primarily determined by the operating parameters for Kabul, which accounted for slightly more than half of the power billed in the indicated period (Table 3.3 below). In cities with imported power and diesel generation, such as Mazar-e-Sharif and Kunduz, average tariffs are generally higher than in cities where the power supply is based (or was based historically) on low-cost hydropower (such as Kabul and Kandahar). The data from DABM indicate that the average cost recovery rate at on the level of the utility is about 40% largely due to the great gap between total costs and total collections in Kabul.

3.7 In Kabul, cost recovery is much lower given the higher cost of supply when the 45 MW North West Kabul thermal power plant is operating. This plant provides average on 30-40% of Kabul's electricity. Kabul is dependent on this plant to supplement the unreliable hydro power and to maintain what little electricity is provided to the city. In SY 2003/04 the cost of operating this plant was an estimated US¢ 11-15 per kWh. The increase in world fuel prices raised the operating costs to an estimated US¢ 18-28 per kWh during 2004/05 depending on the price of diesel fuel.[1] Neither DABM nor the Government pays for, or can afford to pay for, this fuel. In 2003/04, the fuel cost was paid for by IDA, ARTF, and USAID. In 2004/05, USAID assumed full responsibility for paying for the fuel and for plant operation, which required well over $40 million. USAID and other donors recognize the need to continue paying for fuel for this plant until less expensive imported power can be transmitted from the Northern Transmission System (NTS); however, it is not clear that funding will continue to be available. The NTS is not expected to be completed before October 2008.

[1] The cost of diesel fuel was in the range of US¢25-30 per liter in 2003/04 compared to US¢35-50 per liter in 2004/05.

Table 3. 3: DABM: Effective Tariffs and Costs by Region, 2004/05

Region	Effective Tariff	Costs	Share of Power Billed as % of System Total
	(US¢/kWh)		
Kabul*	2.1	15.4	49%
Kunduz	4.6	3.2	4%
Balkh	7.4	6.5	17%
Herat**	2.5	5.2	7%
Nangarhar	7.3	1.3	6%
Kandahar	3.3	1.1	14%
NATIONAL AVERAGE	5.1	12.3	

Source: DABM, with addition of data on costs of USAID-procured fuel for Kabul.
* Cost data for Kabul include estimate of 6 months of provision of diesel fuel for Kabul not included in DABM's accounts..
** Herat is noteworthy for posting significant "miscellaneous income" that goes a long way to covering the cost-revenue gap shown here.

3.8 The power situation in Kabul remains poor, with little or no reprieve in sight before the NTS is operational (i.e. three years from now). In response to crisis, MoEW has purchased several diesel generating sets for installation in various locations in the city. Notwithstanding the technical problems associated with the installation, operation, and maintenance of these units and the substandard way they were procured (see para 3.41), it is unclear where the estimated $10 million per year for the required diesel fuel will be sourced in order to operate these units, as the utility does not generate sufficient revenue to cover this expense. This case reflects both the pressure to improve the supply of electricity and the reluctance of the utility and the Government to address cost recovery as a means to improve operations.

3.9 In June 2005, MoEW substantially reduced the power tariff in Herat, reflecting the lower cost of imported power from Iran and Turkmenistan (which displaced the previous inefficient and costly diesel units). The new rates are Afs 2 per kWh for residential and Afs 5 per kWh for commercial customers, compared to Afs 4 and 7 per kWh previously. This decrease will negatively affect Herat's ability to expand its distribution networks from internal revenue sources. It is recommended that future tariff decreases are put on hold until proper cost recovery analysis can be completed.

INSTITUTIONAL FRAMEWORK

3.10 ***Organization of the Public Power Sector.*** MoEW manages, controls, and operates the power sector of Afghanistan through eight departments and four SOEs, of which the largest is DABM.

3.11 The Government established five enterprises for the management of the power sector under the 1980 Enterprises Act, which are theoretically separate and autonomous but in practice are closely controlled by MoEW (one of them has been converted into a ministerial department):

- *Da Afghanistan Breshna Moasessa (DABM)*, in charge of generation, transmission, and distribution of electricity in Afghanistan (5421 employees).
- *Spinghar Construction Unit (SCU)*, in charge of civil works for power stations and substations and for all civil works relating to the power sector (385 employees).
- *Power Construction Unit (PCU)* in charge of erection of all electrical works like transmission and distribution lines and substations (420 employees).

- *Water and Power Engineering Consultancy Authority (WAPECA)* responsible for design (including field survey) of new generation, transmission and distribution projects (182 employees). WAPECA has now been converted into a department of MoEW.
- *New and Renewable Energy Research and Development Centre (Jadid Energy Enterprise)*, responsible for activities relating to development of renewable energy (149 employees).

3.12 The state utility, DABM, is responsible to MoEW for operation and maintenance of the country's generation, transmission, and distribution assets, as well as for metering, billing, and revenue collection for the electricity it produces and distributes. DABM lacks the appropriate governance structure, technical competence, and financial resources to improve the country's electricity services. In spite of being defined in Afghanistan's 1986 Usage of Electricity Act as an autonomous enterprise, DABM is in practice closely controlled by MoEW and depends heavily on donor support for its non-salary operational and investment funds. As mentioned earlier, USAID provided in excess of $40 million for diesel fuel to operate the NW Kabul Power Plant in 2004/05. This is roughly double the total expenditure reported by DABM and dwarfs the $1 million DABM shows as net revenue (see Table 3.6 in Section C below).

3.13 The four remaining enterprises (i.e. not including WAPECA, which is now a department of MoEW) are viewed as SOEs by the Ministry of Finance. As such they are required to submit quarterly financial statements, to pay taxes on gross revenue and turnover, and not to receive subsidies from the government budget. However, there is no evidence that DABM has submitted quarterly statements to date.

3.14 In addition, it is not likely that the SOEs, other than DABM, have the potential for achieving viability on their own without financial support for equipment and technical assistance to inject modern management and commercial practices. It is recommended that the SCU be liquidated as there are several private sector civil construction companies in Afghanistan which have the capability to carry out this work. The larger portion of the most qualified staff in the PCU, which carries out more specialized electrical work, have left for higher paying jobs. It is not clear that PCU needs to remain as an SOE, although additional analysis is required. For the PCU to be a viable enterprise, it will need assistance to build its technical, commercial, and managerial skills. This could be done by the private sector through sale of the company, or another option is to work with the PCU to build its capacity to compete through utilizing its services to build distribution systems currently under assessment by various donors. However, based on experience under the first IDA Emergency Infrastructure Reconstruction Project, the second option requires significant technical assistance and oversight by donors to ensure efficient and good-quality work by PCU. Some maintain that as long as external donor funding continues to flow to foreign companies for infrastructure development within Afghanistan, all reasonably talented staff will flee SOEs to more lucrative positions. While this builds capacity for individual Afghans, it undermines the longer-term development of local companies such as the PCU.

B. The Government's Strategy and Policies in the Power Sector

GOVERNMENT STRATEGY AND POLICY DOCUMENTS

3.15 The Government of Afghanistan has identified the power sector as a major constraint to economic growth and, in various high-level strategy and policy documents, has called for the power sector's development as an urgent priority. There is a strong rationale for public financing of the capital requirements of the entire power chain (generation, transmission, and distribution) under present and foreseeable conditions in Afghanistan: the massive financing required for rehabilitation and, in particular,

for expanding access; the power sector's current lack of attractiveness to private investors; and the monopoly character of the transmission and distribution functions.

3.16 This rationale for public intervention should not be viewed as a justification for free provision of power, or even for a government monopoly on activities related to the power sector. First, the leading role of the Government (and/or donors) in providing the capital needed by the sector should be complemented by efforts to fully recover the recurrent costs incurred in the delivery of power to consumers, but this is not clearly articulated in Government policy. Second, there is some scope for increasing the private sector's participation in the sector, most likely through management contracts and operation of selected investments (see below).

3.17 The Government's formal strategy for power sector development is embodied in three documents: (i) the National Development Framework (NDF) that was presented by the Government in April 2002, one of the three pillars of which is physical infrastructure, including energy; (ii) *Securing Afghanistan's Future* (March 2004), which detailed a public investment program for the power sector over the period 2004-2010; and (iii) the "Electricity Sector Policy" which the Government of Afghanistan approved in August 2004.

3.18 The "Electricity Sector Policy" outlines an ambitious vision according to which, by 2010, the power sector should consist of "autonomous, financially viable enterprises providing reliable, low-cost electricity supply service to all Afghan citizens in an environmentally responsible manner, consistent with sound business practices." This vision, which calls for the Government to relinquish its role as operator of the sector, is to be realized through a combination of measures: (i) rehabilitation of existing infrastructure and construction of new physical assets in generation, transmission, and distribution; (ii) improving utility operational efficiency (reducing losses, improving collections); and (iii) establishing an independent regulator. Emphasis is given to promoting private sector participation in the sector, although it is clear that for the foreseeable future it will be most appropriate for DABM to remain under State ownership.

3.19 While there is a high degree of consistency in the policy orientation of these three documents, the challenges of securing financing and ensuring the timely implementation of specific priority projects as well as advancing policy reforms have been formidable, and progress to date has been mixed. Most noteworthy are achievements in generation (e.g. re-commissioning of the 45 MW NW Kabul Power Plant and the ongoing rehabilitation of hydropower plants). The transmission line that is presently being built from the border with Uzbekistan to Kabul is one of the most significant infrastructure projects currently being carried out in the country and, when completed, will enable import of lower-cost power to Kabul and points along the route. The challenge of the rehabilitation of distribution systems and expanding access to grid-based power is greater, and that of expanding rural access to electricity greater yet (see below).

INSTITUTIONAL AND REGULATORY REFORMS

3.20 Reform of DABM is central to the institutional reform of the power sector (see Section 4 for a detailed discussion of the restructuring of DABM). The "Electricity Sector Policy" calls for the separation of utility functions from MoEW and for the creation of a Board of Directors for DABM, including representatives of the Ministry of Finance (MoF) and other stakeholders. But no steps have been taken to realize this important institutional reform.

3.21 In terms of the sector's regulatory framework, the two most significant aspects called for under the Government's policy are the establishment of an independent regulator and the revision of the electricity law (last revised in 1984) to allow for, among other things, private sector participation in the

sector. Here, too, there has been no progress to speak of, but in view of the present state of the sector, these reforms are not on the critical path. Given the power sector's low level of development and the overarching need to build capacity in the responsible ministry, there is no compelling argument for the establishment of an independent energy regulator in the coming years. Instead it is envisaged that MoEW would enhance its regulatory capacity. This is provided for in the proposed new organizational structure of MoEW. Until DABM becomes a credit-worthy entity and there is transparent regulation, there will be limited or no large-scale private investment attracted to the power sector in Afghanistan. These are both necessary, although not necessarily sufficient, conditions as concerns about rule of law and security remain serious constraints.

PRIVATE SECTOR PARTICIPATION

3.22 While Government policy calls for increased participation of the private sector in the economy, the application of this policy to the power sector is likely to be more limited than in other spheres of the economy. The prospect of private (in particular, foreign) financing to rehabilitate and expand power services is unlikely given the low level of cost recovery in the sector. In addition, any private participation that involves even limited financial risk is likely to be constrained by current perceptions of security and political risks. Nonetheless, there is some potential for private sector participation in the development of the power sector in Afghanistan. The most promising prospect based on current information would be an integrated gas-to-power project at Sheberghan, which could be structured as a build-operate-maintain contract in which international donors assume the capital financing risk and the private operator takes the operating risk. In such a transaction the commercial risk (i.e. the payment for the power produced) would likely be taken by the Government and backstopped by the international donors. However, the more likely structure will be a turnkey EPC[2] contract with a 5-7 year operation and maintenance agreement.[3] Box 3.1 describes various types of public-private partnerships to build and operate power assets.

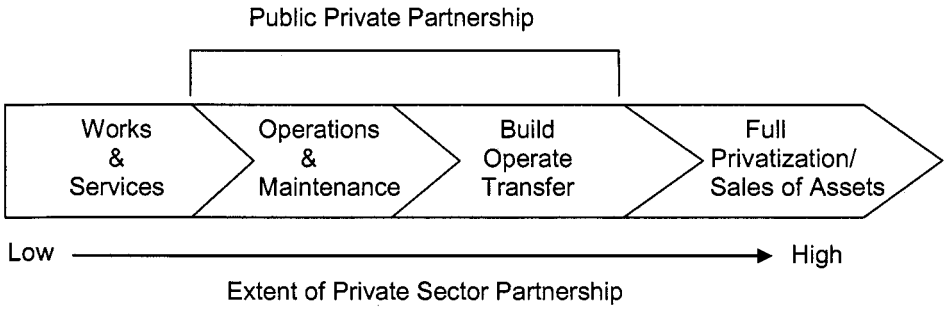
3.23 There is also potential for the deployment of small-scale private domestic capital in the power sector, particularly in rural areas and in urban areas not served by the public utility. Anecdotal evidence suggests that small-scale, informal private provision of power from individually owned generator sets is taking place; an appropriately "light-handed" regulatory regime could potentially increase the importance of this source of privately produced and distributed power in the economy.

[2] Engineering, procurement and construction

[3] This is based on discussions with USAID which is undertaking the feasibility study and has expressed interest in structuring and financing the contract.

Box 3. 1 Forms of Private Sector Participation

There are numerous forms of public-private partnerships. A typical way of presenting them in a simplified way shows the main categories on a horizontal axis, where the extent of participation of the private sector grows from left to right:



Works and services contract: A works and/or services contract is an arrangement in which the public utility contracts out specific works (e.g. rehabilitating and expanding a distribution system, construction of a new power plant, etc.) or services (e.g. technical assessments or project management for large works contracts) to the private sector.

Operation and maintenance contract: An operation and maintenance contract is an arrangement by which a private company is entrusted with various types of tasks usually performed by the public authority, such as the day-to-day operation and maintenance of existing electricity operations (e.g. power plant).

Concessions: A concession is an arrangement under which a public entity, owner of the power asset (e.g. generation plant, transmission line, etc.), delegates to a private entity (concessionaire) the responsibility for providing and maintaining a specified level of service to electricity users in exchange for the right to collect revenue from those users. Unlike the previous forms of public-private partnerships, a concession shifts some of the financial risk to the private sector. Concessions may take various forms:

- Under a Build Operate Transfer (BOT) concession, the responsibility of the concessionaire is not limited to operation and maintenance of the infrastructure but also comprises initial construction, upgrading, or major power rehabilitation component. Large investment and consequent mobilization of private funding sources is therefore required from this company and is to be repaid from the revenue collected from electricity users through the tariff. BOT stresses the responsibility of the private entity during construction and operation of the power asset and the handing over (transfer) of the assets to the public entity at the end of the concession period. The high initial investment required from the private sector and the consequent long concession period make the distribution of risk between the parties a key element of success in such schemes. Many variations on this type of contract have been implemented with a growing number of acronyms used to label them:
    - **BOO:** Build, own, and operate type project financing
    - **BOOT:** Build, own, operate, and transfer type project financings
    - **BOT:** Build, own, and transfer type project financings

DEVELOPMENTAL DISPARITIES IN THE SECTOR

3.24 There are two power sector-related disparities that have a developmental impact: (i) regional variation in tariff levels and tariff structures - despite demonstrated willingness and ability to pay, in Kabul tariffs are considerably lower than in other regions, and far from cost-reflective; and (ii) the urban/rural disparity - public funds spent on the power sector overwhelmingly benefit the generally urban consumers of grid-supplied electricity, while the population of the country is overwhelmingly rural. While the "Electricity Sector Policy" calls for MoEW to "encourage the expansion of access to underserved and rural communities", at present little financing is being devoted to rural energy issues through the MoEW (or DABM) budget. Some small-scale power projects have been financed through the National Solidarity Program (NSP), administered by the Ministry of Rural Rehabilitation and Development. According to NSP data, over 2,600 sub-projects with a budget of over $50 million have been approved for small power projects in villages across the country. The overwhelming majority of these projects (over 90%) are for diesel generators; the remaining are micro-hydro schemes. It is estimated that these projects will provide an estimated 1.6 million Afghans access to electricity. However, there are serious concerns about the sustainability of the diesel generator projects from a technical, financial, and environmental perspective. It is unclear that the villages have the capacity to operate and maintain the generators and to pay for the fuel to keep them operating. These aspects are now being addressed by the NSP oversight consultant.

C. Fiscal Shape of the Power Sector

3.25 The fiscal dimensions of the power sector are defined largely by the revenues and expenditures of the relevant portions of the national budget administered by MoEW. The budgets of MoEW and DABM are essentially separate, including on the level of staff (i.e. no DABM staff are on the MoEW payroll as far as is known). There are no transfers from MoEW to DABM. At the same time, it should be noted that there are some minor and/or indirect links between DABM and the budget. DABM pays corporate taxes and, as an SOE, its liabilities are ultimately backstopped by the Government. Moreover, DABM as an entity benefits from development projects that are administered by MoEW and not reflected on DABM's books.

3.26 In view of the effective separation of accounts, the discussion that follows treats the finances and budgets of MoEW and DABM separately.

OPERATING BUDGET

3.27 In the context of the overall national operating budget, operating expenditures on power are a small portion of the total: in 2004/05 and 2005/06, 0.6% of the total operating budget was spent on the subprogram Energy, Mining, and Telecommunications.[4] Table 3.4 below presents data on MoEW's total approved allocated operating budget for 2004/05 and the analogous proposal for 2005/06 (power only). These figures correspond to about (500) staff who worked in the Ministry of Water and Power which was recently merged with the Ministry of Irrigation to create the MoEW. The overall MoEW proposal for the 2005/06 operating budget (Afs 200 million) covers the merged ministry and uses three main categories in place of the categories used previously.

[4] The available data do not disaggregate for the power sector alone; accordingly, the actual figures for the power sector would be less than the figures noted here.

Table 3. 4 MoEW Operating Budget (power), 2004/05 and 2005/06

	2004/05			2005/06	
Old Code	**Category**	**Allocation (Afs)**	**New Code**	**Category**	**Allocation (Afs)**
10000	Salaries and Allowances	21,292,752	21	Compensation of employees	23,062,215
20000	Services	4,200,000			
30000	Tools and Materials	5,000,000	22	Goods and services	9,270,106
40000	Repairs and Maintenance	2,000,000			
70000	Subsidies, Grants, Contributions & Pensions	300,000			
50000	Land, Structure and Equipment	14,000,000	25	Acquisition of assets	12,887,709
60000	Investment				
	TOTAL	46,792,752			45,220,030

Sources: 2004/05: Afghanistan Operating Budget, An Overview for Fiscal Year 1383, Ministry of Finance;
2005/06: Data from Counterpart Chief Financial Officer, MoEW

3.28 In terms of the breakdown of the operating budget by economic classification, MoEW is not outside the norm for other ministries. The percentage breakdown for MoEW across codes 21, 22, and 25 is 51%, 34%, and 16% respectively. This compares to the mean average for all ministries of 56%, 35%, and 9%.

DEVELOPMENT BUDGET

3.29 The Power Sector Master Plan (final report dated October 2004) provides the basis for investment decisions. This Power Sector Master Plan was also used as the basis for defining investments in *Securing Afghanistan's Future.* The investment priorities as described in the Power Sector Master Plan and *Securing Afghanistan's Future* are still relevant, and the 2005/06 National Budget broadly reflects these priorities. These priorities were determined on the basis of a least-cost expansion plan taking into account specific features of the power sector in Afghanistan today (notably the emergency need for power supply in Kabul, and the benefits of diversification of supply) and projected demand growth in various parts of the country. (See following paragraphs for key deviations.)

3.30 In 2003/04, only 55% of the approved budget of $86.1 million for the power sector was committed. (This was prior to the requirement to approve a fully funded budget.) Only $8.4 million was reported as disbursed, equivalent to 18% of the committed amount, although this may be understated since MOF did not have full information on the external budget. The approved development budget for the power sector almost doubled in 2004/05 to $160.7 million (subsequently increased to about $178 million). Disbursement ratios also improved over the previous year to 42%. The recently approved budget for 2005/06 shows an 11% drop in the development budget approved for the power sector (Table 3.5).

3.31 The large majority of funds in 2004/05 were to begin the rehabilitation of all the large hydro plants, related key transmission links, re-commissioning the Kabul NW power plant – which effectively doubled the amount of electricity delivered to Kabul in the winter – and rehabilitate part of the Kabul

distribution network. With the exception of the Kabul NW power plant which was re-commissioned in January 2003 (about 6 months after contract signature), the implementation period for rehabilitating other power assets requires significantly more time (18-36 months), depending on the scope of work. Most of the contracts to rehabilitate generation plants were issued to the original equipment manufacturers given the emergency nature of the early investments. This resulted in high costs which were compounded by the security risk being charged by firms. Even when items were competitively tendered, the number of bidders have been few and prices have consistently exceeded cost estimates – even when such estimates were increased to reflect country risk.

Table 3. 5: Development Budget for the Power Sector (US$ million)

FY	Total Approved	Core	External	Unfunded	Disbursed
2003/04	86.1*			38.4	8.4
2004/05	160.7	53.4	107.3		74.1
2005/06	142.6	84.2	58.4	135.0	

* Of which $47.6 million was ultimately committed by donors. No breakdown is available between core and external.

3.32 Roughly half of the projects put forward for financing in 2005/06 are unfunded. The large number of unfunded projects and the decrease in external financing in comparison to 2004/05 is in part attributable to a few key donors, notably USAID, who were not able to commit financing until such time as the financing was approved formally by their respective governments.[5] However, also included are several projects which were added late in the budget process and without consultation with the donor group. A particularly egregious (unfunded) example is the $210 million project ($10 million in 2005/06) for the feasibility study and construction of the transmission line from Herat to Kandahar to Kabul. This is a remnant of the Soviet planning days to build a transmission ring around the country, although it was clearly rejected in the recent Power Sector Master Plan as being uneconomic in the medium term due to the long distances between relatively small load centers.

3.33 ***Future Investment Strategy***. In *Securing Afghanistan's Future*, the Government articulated its plan to extend the availability of electric power in the main regions of the country by (i) investing heavily in rehabilitation of the existing system, (ii) increasing supply, in part by relying more on power imports; and (iii) expanding the country's generation, transmission, and distribution infrastructure. The Government has set a target of adding 730,000 connections by 2010. This would result in an increase of the access ratio in urban areas from the current estimated 27% to 77% by 2010, and an increase in the access ratio countrywide from the current 10% to almost 25% by the same date. Under this ambitious plan, by 2015, the urban access ratio would increase to almost 90% and overall access to 33%. Approximately $2.8 billion may be needed between 2004 and 2010 to make progress toward these targets. This requires about $350 million to be committed each year on average. To date, commitments have been substantially less.

3.34 ***Donor Consultative Group***. There is generally good coordination among the donors in the power sector and regular coordination meetings are convened by MoEW. There are six key donors in the power sector: two multilaterals (ADB and The World Bank) plus ARTF which contribute through the core budget and four bilaterals (Germany, India, Iran, and United States) which contribute through the external budget. To date, ADB, WB, and ARTF have committed (i.e. approved) $260 million in funding for the power sector, with about an equal amount from the four bilaterals. The total commitments to date exceed $500 million. The disconnect with the figure in the National Development Budget is due to the fact that donor commitments are multi-year whereas the budget figures reflect what is expected to be disbursed in the given fiscal year.

[5] USAID budget approval came through after the finalization of the Afghan budget.

POWER UTILITY (DABM) FINANCES

3.35 Revenues in the power sector are collected through DABM. The revenues collected only cover staff salaries and minor operating expenses and are not supplemented with transfers from MoEW. Although fuel and raw material purchases account for a large part of DABM's total expenditures (some 46% in 2004/05), the company's revenues do not suffice to meet major operating expenses, such as fuel to run the NW Kabul Power Plant (about $40 million per year) and fuel assistance elsewhere in the country, routine and periodic maintenance of facilities, or to contribute to rehabilitation and expansion of the infrastructure. Implementation of basic efficiency measures (loss reduction, improved collections) together with the needed tariff rationalization (particularly in Kabul) would greatly increase the sector's revenue-earning potential and ability to finance its long-term rehabilitation and expansion. Table 3.6 provides summary data on DABM's revenues and costs in recent years, and Table 3.7 shows an overview of the revenue and cost structure for 2004/05. (See Table 3.9 for detailed data by DABM regional office.)

Table 3. 6: DABM, Expenditure and Revenue, 2002/03-2004/05 (USD)

Year	2002/03	2003/04	2004/05
Expenditure	9,018,264	18,761,909	31,794,936
Revenue	9,975,771	19,864,944	32,898.959
Net Revenue	957,507	1,103,035	1,104,023

Note: Net revenue before interest, taxes, depreciation

Table 3. 7: DABM, Structure of Revenue and Costs, 2004/05

	mln Afs	%
Revenue		
Sale of electricity	1,461.6	93%
Miscellaneous	117.6	7%
Total	1,579.2	100%
Costs		
Wages	227.6	15%
Fuel and raw materials*	702.6	46%
Imported electricity	337.1	22%
Miscellaneous	208.8	14%
Total	1,526.2	100%
Net Income	53.0	

* Does not include the cost of fuel to run the NW Kabul Power Plant, which is paid for directly by USAID.

3.36 DABM pays the usual corporate taxes (2% turnover tax on gross revenues and 20% profit tax), reportedly having remitted Afs 47.5 million to MoF for 2004/05.

3.37 Given the power utility's insolvent state and the likelihood that grant financing of fuel for the NW Kabul plant most likely will be of limited duration,[6] there is significant fiscal and operational risk implicit in the very low tariffs in Kabul. This risk is heightened by GoA's intention to install additional generator sets in Kabul to respond the capital's power crisis; no source of financing for the fuel has been identified for the new generator sets. Movement toward cost-recovery through tariff rationalization is thus a matter

[6] USAID funding is approved on a year-to-year basis, and as is the case with any donor, the general intention is to move away from funding recurrent expenses as soon as possible

of urgency. In order to develop proper cost recovery, it is essential that DABM develop an understanding of its actual cost of service, which is currently impossible due to weak internal accounting practices and lack of technical data.

D. Budgeting and Implementation Issues and Accountability Framework

3.38 ***Overview: Weak Capacity.*** Overall, the capacity in the power sector to carry out core accountability functions is weak, both at MoEW and DABM. This is particularly evident in the implementation by MoEW of the major capital investments that are being made in the sector, and in specific areas such as procurement and financial management. While development projects that are funded from the core budget benefit from the availability of the Project Implementation Support Unit (PISU), a team of foreign consultants funded by ARTF and are managed in accordance with the fiduciary requirements of the international contributors to the core budget, there is a clear need for capacity-building in the implementation of all development projects (including those financed directly by donors and those financed from the national budget), so that Afghan staff can eventually take over responsibility for these functions. The integration of PISU into the routine operations of MoEW will be an important step in building capacity in these areas. In addition, significant capacity building is required for other, non-project related areas which are fundamental for management of the Ministry

3.39 As is common in other sectors, the low civil service pay scale is not sufficient to retain professional staff (most have left for higher-paying jobs with donors, NGOs, the UN, etc.) and to attract younger, professional Afghans who can replace the aging workforce which possesses technically outdated skills. The younger staff currently employed by the Ministry typically lack even the most basic qualifications. Motivation to perform well is minimal, as staff often have other jobs to make ends meet and there is no career planning available. The majority of work is carried out by a relatively small number of Ministry employees. The Priority Restructuring and Reform (PRR) process has begun in the Ministry, although progress has been extremely slow and the results far from certain. It had earlier been agreed that the PISU would be the first to qualify under PRR. However, this appears to have been rejected by the Civil Service Commission, resulting in inability on the part of the Ministry to attract suitable candidates to the unit responsible for ensuring that the development budget is implemented.

3.40 ***Budget Preparation.*** MoEW's capacity for preparing the budget and overseeing public spending in the sector is weak, but in the last year MoEW has had more support from external advisors. There is a general concern that more realism is required in the budget-planning process, i.e. that the initial budget requests prepared by the Ministry should better reflect actual implementation capacity. For 2005/06 the ministry requested an operating budget allocation on the order of Afs 1 billion, but this was reduced to about Afs 200 million by the Ministry of Finance (for the entire merged ministry). The preparation of the development budget is generally good, although it is difficult for MoEW to prioritize projects (all projects are considered priorities). In addition, the process is still fragile with respect to including uneconomic projects in the budget (e.g. the Herat-Kandahar-Kabul transmission line). The counterbalance is that donors are unlikely to fund such projects, and the Government does not have sufficient discretionary resources to fund them.

3.41 ***Procurement.*** The structure of MoEW includes a Procurement Unit (reportedly with a staff of 60) which requires considerable strengthening both in terms of its technical (engineering) capacity and in procurement principles and practice. Some recent cases of procurement illustrate the extent and range of procurement implementation issues. In 2004/05, the Ministry of Finance approved, in two separate allocations, a total of $13.5 million in domestic resources to be used by MoEW for rehabilitation of microhydel schemes ($8.5 million) and to purchase diesel generator sets for Kabul ($5 million). While a

contract was signed for the latter purpose within weeks of approval, no contract has been signed to date for the rehabilitation of microhydel schemes (repeated tenders failed due to, among other reasons, the absence of engineering specifications in the procurement documentation). Both the extreme quickness with which the contract was signed for the diesel generator sets and the extreme delay in the contract to rehabilitate the microhydel plants reflect lack of implementation capacity and objective and transparent internal procedures within the line ministry to ensure good governance. Moreover, the delivery of the diesel generator sets is incomplete long after the agreed delivery date, which further illustrates a basic implementation problem.

3.42 Recent experience also includes instances of procurement that were rejected by MoF due to unspecified tender procedures or procedural violations. The fact that MoF exercised control in these cases is encouraging but does not obviate the need for considerable improvement in MoEW's capacity to carry out procurement and the transparency with which this function is executed.

3.43 DABM also carries out procurement for operating expenses (e.g. fuel and raw material purchases accounted for 46% of DABM expenditures in 2004/05), but the limited information on how this procurement takes place makes a meaningful assessment of the process impossible. Over 2002/03-2004/05 miscellaneous expenditures have grown from 8% of DABM's total expenditures to 14%. Little is known about the composition of these expenses and the procedures followed in making them; given their growing significance in overall DABM expenditures and the need to understand the actual cost of service, these expenditures should be better accounted for.

3.44 ***Inadequate and Unreliable Data Collection by the Power Utility.*** The overall framework for collection, analysis and use of information for management decisions is inadequate. The utility, which accounts for most of the sector in terms of both employment and revenue collection, lacks a commercial orientation and the basic organizational and information infrastructure (including such basics as computers with standard office software) required to collect and process data on utility operations. Data on power load, production, dispatch, and imports are often not available in the utility's central office, and data on financial and physical parameters are unreliable. All data are recorded by hand, which increases the likelihood of errors in data recording and considerably complicates any analysis.

3.45 An important measure of the efficiency of power sector operations is the level of aggregate technical and commercial losses, but the available data in Afghanistan do not allow for a robust calculation of this parameter. Technical losses, as reported, are high by developed world standards, but not by developing country standards. However, commercial data, to the extent that they are reported, are not reliable, and without this information, it is ultimately impossible to obtain a credible measure of the sector's efficiency and of the extent to which theft and corruption are problems.

3.46 Despite this generally negative assessment of implementation capacity and accountability in the power sector, improvements are slowly occurring in some areas, for example in the recently introduced requirement for DABM to submit quarterly financial statements to MoF. These statements are not yet audited, but this development represents the beginning of efforts to increase accountability in the sector.

3.47 ***Restructuring/Reform of DABM.*** The reorientation of DABM to a commercial utility is central to the on-going efforts to improve the performance of the power sector in Afghanistan. The particular challenge in this regard is to effect a fundamental change in the utility's working culture and to create a commercial orientation to the utility's operations. Absent these reforms, the risk is significant that the power system will remain a serious impediment to the country's economic development for a long time to come.

3.48 MoEW is in the process of contracting an international firm that will provide management and advisory services to define and perform all of the tasks required to incorporate DABM as an independent company with four operationally autonomous Regional Business Units (RBUs). The advisors will manage the recruitment process for new management teams in each RBU and assist the management of each RBU in improving efficiency, commercialization, and expansion. New billing and accounting and asset management systems will be implemented as part of this assistance. A key question to be resolved is whether fiduciary functions such as procurement and financial management would be most appropriately handled on a centralized or decentralized basis (as effectively happens now), and whether other administrative functions should be centralized. Whatever organizational model is selected, it is clear that there is a need for additional institutional capacity building in these important functional areas. Moreover, without addressing the issue of pay scales, DABM will flounder and will be unable to maintain or attract sufficient numbers of qualified personnel.

E. Summary of Recommendations

3.49 Based on the analysis in this chapter, summary recommendations are put forward in Table 3.8 below.

Table 3. 8: Summary f Recommendations

	Issue	Recommendation
1.	***Cost Recovery and Targeted Social Assistance.*** If proper pricing of electricity is neglected, no investment program will be able to cope with the load increase fuelled by under-priced and/or non-paid-for electricity. The Government has shown willingness to raise tariffs by doubling them during the winter two years ago. However, defining a tariff path to full cost recovery levels requires an understanding of the full cost of service and will need to be in line with improvements in the quality of service. In addition, tariffs were recently lowered in Herat. Government and donors cannot be expected (nor can they afford) to pay the full cost for expanding access. Consumers will need to pay connection fees (which apparently already occurs in cities like Herat). Targeted subsidy schemes should be developed to connect the poor. The Government will need to be careful to target capital subsidies and not provide across-the-board consumption subsidies which encourage waste and typically benefit the better-off.	(i) The calculation of the full cost recovery of hydro-based electricity distributed in Kabul (even if seemingly fully depreciated) should be a priority. The minimum objective is to raise electricity tariffs to a level in line with energy carriers competing in the heating sector (e.g., fuel wood, LPG, other liquid fuels). (ii) Refrain from lowering tariffs in other cities (e.g. Herat, Mazar, etc.) where consumers have a track record of paying close to cost recovering prices (iii) Government ministries and agencies to fully budget for their power consumption and pay bills on a timely basis. Alternatively, direct budget transfers to DABM could be considered. (iv) MoEW to develop economic regulatory capacity. (v) Fast-track completion of the North to Kabul transmission line to allow least-cost imported power to be supplied to Kabul and reduce the need for expensive power generated using diesel fuel.
2.	Define respective roles of Government and the private sector in the power sector. Define specific institutional-legal and regulatory requirements needed to lay the foundation for future private investment.	Pursue private sector participation on a pilot basis with the Sheberghan gas-to-power project.
3.	Modernize/strengthen basic commercial and accountability functions at the utility	(i) Restructure/reform DABM to allow for commercial orientation; corporatize under new Board of Directors with new management teams (ii) Computerize DABM's accounts and billing and collection (iii) Implement procurement training course for all procurement staff
4.	Building MoEW capacity	(i) Recruit Afghan counterparts to PISU with adequate salaries to attract qualified staff (ii) Use PISU for implementation of all core budget projects to ensure transparent internal controls with respect to procurement and financial management
5.	Prioritization of investment projects	Adhere to the Power Sector Master Plan, following principles of least-cost expansion and diversification of supply sources

Table 3. 9: DABM Operating and Financial Statistics (2004/05)

Name of Department	Number of Subscribers	(in GWh)						(in Afs)									
		Electricity Purchased	Electricity Produced	Internal Consump-tion	Distribution from Busbar	Electricity Billed	Technical Losses (%)	Basic Revenue 3/	Misc. Income 4/	Total Revenue	Salaries	Fuel & Raw Material	Purchased Electricity	Misc. Expenses 5/	Total Expenses	Net Income	Taxes Paid 6/
Enterprise Center								-	-	-	21,726,455	914,061	-	51,683,147	74,323,663	(74,323,663)	
Kabul Electricity	83,911		444.44	38.24	409.76	284.55	31%	574,386,000	12,475,000	586,861,000	83,698,000	2,130,000	-	57,635,000	143,463,000	443,398,000	
Production Unit 1/								3,739,000	625,000	4,364,000	28,075,000	1,009,000	-	2,243,000	31,327,000	(26,963,000)	
Parwan Electricity	5,053		4.04	0.10	3.95	2.30	42%	3,723,000	820,000	4,543,000	6,528,787	69,250	-	257,592	6,855,629	(2,312,629)	
Ghowry Electricity	9,380		33.09	1.43	31.65	20.79	34%	65,315,000	1,482,000	66,797,000	15,710,500	686,678	-	2,997,000	19,394,178	47,402,822	
Kunduz Electricity	12,867	30.17			30.71	23.25	24%	78,504,922	2,536,177	81,041,099	4,079,200	863,800	28,988,800	2,620,700	36,552,500	44,488,599	
Balkh Electricity	48,192	151.15		2.23	148.91	96.34	35%	349,224,632	10,281,429	359,506,061	50,735,758	10,439,278	237,125,185	12,846,092	311,146,313	48,359,748	
Herat Electricity	25,227	74		0.11	73.62	41.60	43%	51,767,134	75,083,645	126,850,779	7,093,834	364,006	56,608,585	42,170,092	106,236,517	20,614,262	
Nangarhar Electricity	7,157		54.42	6.27	54.18	32.85	39%	116,791,000	3,380,000	120,171,000	15,300,000	736,500	-	5,326,000	21,362,500	98,808,500	
Kandahar Electricity	21,609		106.47		100.31	80.47	20%	128,705,875	3,074,118	131,779,993	18,968,977	2,128,900	-	21,822,871	42,920,748	88,859,245	
Takhar Electricity	1,722							-	-	-	-	-	-	-	-	-	
Badakhsan Electricity	1,671							2,816,321	654,485	3,470,806	3,395,817	3,113,642	-	1,948,046	8,457,505	(4,986,699)	
Kunar Electricity	430		0.78	0.0011	0.76	0.55	28%	1,608,660	178,875	1,787,535	876,410	-	-	180,695	1,057,105	730,430	
Ghazni Electricity	1,310		0.33	0.0010	0.33	0.23	29%	4,860,563	353,681	5,214,244	2,480,445	7,381,706	-	437,732	10,299,883	(5,085,639)	
Power Plant Station 2/								-	-	-	4,815,127	659,972,634	-	476,731	665,264,492	(665,264,492)	
Paktia Electricity	290		0.03	0.0018	0.02	0.02	11%	160,975	115,755	276,730	908,424	966,355	-	81,960	1,956,739	(1,680,009)	
Khost Electricity	1,165		0.55	0.06	0.49	0.25	50%	6,143,947	64,487	6,208,434	821,844	3,597,584	-	323,760	4,743,188	1,465,246	
Helmand Electricity	4,471							29,823,186	3,014,066	32,837,252	6,665,782	3,882,144	-	3,646,302	14,194,228	18,643,024	
Nimroz Electricity	3,500							29,520,400	2,642,000	32,162,400	492,924	126,480	14,400,000	852,960	15,872,364	16,290,036	
Wardak Office	1,200		1.04	0.0720	0.97	0.49	50%	919,500	44,000	963,500	1,377,385	242,500	-	285,500	1,905,385	(941,885)	
Logar Electricity								-	-	-	591,524	301,000	-	287,100	1,179,624	(1,179,624)	
Pulikhumri Pole Factory								13,546,890	768,285	14,315,175	3,265,955	3,669,347	-	709,058	7,644,360	6,670,815	
GRAND TOTAL	**229,155**	**255.31**	**645.19**	**48.52**	**855.66**	**583.68**	**32%**	**1,461,557,005**	**117,593,003**	**1,579,150,008**	**277,608,148**	**702,594,865**	**337,122,570**	**208,831,338**	**1,526,156,921**	**52,993,087**	**47,506,000**

1/ This includes the following hydropower plants: Naghlu: 4x25 = 100 mw, Sorobi: 2x11=22mw, and Mahipar:3x22=66mw

2/ This refers to the NW Kabul Power Plant - paid by USAID (fuel)

3/ Basic revenue is the income generated by sellig electricity

4/ Miscellaneous income is generated by providing extra servcies to customes (i.e. meters)

5/ Miscellaneous expenses include rehabilitation of frequency, transportation, communication, per diem, renovation of buildings, etc.

6/ DABM is subject to a 2% turnover tax on gross production/revenue and a 20% profit tax on net income (paid to MOF)

CHAPTER 4. MINISTRY OF MINES AND INDUSTRIES WITH A FOCUS ON EXTRACTIVE INDUSTRIES

Executive Summary

i. Extractive industries, principally mining and hydrocarbons, offer excellent potential for countries like Afghanistan, by providing a direct source of economic growth and diversification of the economy as well as fuels and materials that are essential for fostering growth in other sectors. Exploitation of mineral resources will contribute significantly to Government tax revenues, export earnings, job creation, and value-added activities in the economy. The Government of Afghanistan has adopted the strategic policy of private-sector led growth across the economy and within the natural resources sector (extractive industries) in particular. The Government is demonstrating its commitment to attracting private local and foreign investment to the sector through a number of significant policy and action steps, including promulgation of adequate legislation and reform of government oversight institutions. But there are a number of challenges in the sector that need to be effectively addressed in order for extractive industries to realize their economic potential.

ii. **First, despite significant progress, much remains to be done to complete the regulatory framework for the sector**. The approval of the Minerals Law is an important achievement. But this needs to be operationalized by regulations. A complementary Hydrocarbon Law also is necessary. These elements of the legal framework, combined with a clear vision of the sector put forward by the Government, are essential to create a climate conducive to private investment and growth in the extractive industries sector. The private sector will require a clear vision of the sector as well as some predictability (and credibility) in policies. Developing clear directions in terms of pricing policies (for instance in the case of gas pricing) also is critically important as a means of demonstrating that private investments will be viable. A competitive and stable taxation package also is necessary in this regard.

iii. **The Ministry of Mines and Industry very much needs to develop its capacity to exert its regulatory functions**. This will require important administrative reforms and appropriate capacity building within the Ministry. Important among these reforms will be to develop a capacity to coordinate external assistance, effectively allocate budgetary resources within the sector, and oversee the implementation of the budget for the sector. Weak fiscal data on the sector and poor coordination across donors highlight the need for such capacity to be developed. Also important among these reforms is the capacity to implement the regulatory framework. Developing the capacity to tender some underground resources, such as the major Aynak copper deposit, is urgent.

iv. **As the Ministry focuses on its regulatory functions, it should take steps to prepare State-Owned Enterprises under its control for privatization or liquidation**. This requires in particular strong coordination with the Ministry of Finance and implementing the policy framework adopted by the Cabinet in November 2005.

A. Introduction

4.1 The Government of Afghanistan has adopted the strategic policy of private-sector led growth across the economy and within the natural resources sector (extractive industries) in particular. The extractive industries, principally mining and hydrocarbons, offer excellent potential by providing a direct source of economic growth and diversification of the economy as well as fuels and materials that are essential for fostering growth in other sectors.[1] Exploitation of mineral resources will contribute significantly to government tax revenues, export earnings, job creation, and value-added activities in the economy. The Government is demonstrating its commitment to attracting private local and foreign investment to the sector through a number of significant policy and action steps, including promulgation of adequate legislation and reform of government oversight institutions.

4.2 The Ministry of Mines and Industry (MMI) is taking steps to reposition and transition into a policy-making and regulatory agency to ensure good governance of Afghanistan's mineral resources. However, with the Ministry responsible for 21 State Owned Enterprises (SOEs) as well as a lesser number of budgetary units that function as SOEs, partial restructuring solutions will not lead to meaningful results. This review of the finance and management of MMI takes a forward-looking perspective – focusing on the extractive industries that will contribute to economic stability and government revenue. But in the interim, broad financial and technical assistance is needed so that new regulatory capacity does not become encumbered by a legacy of dysfunctional SOEs. This chapter is intended to assist MMI with long-range financial planning through more strategic investment decisions based on rationalization of core and external budgets. The chapter is also is intended to support broader reforms in MMI to transform MMI into a regulatory agency with a special focus on extractive industries. Developing the requisite financial and administrative capacity is indeed essential to private-sector led growth and fulfillment of the broader mandate of the Government. Therefore this chapter complements the Government's Public Administration Reform and Economic Management (PAREM) program. The central goals of PAREM are to establish an effective public administration that is small and focused on core functions and to improve financial management in budget planning and strategic resource allocation decisions. An essential tool of this reform is the Priority Restructuring and Reform (PRR) scheme, which is an administrative reform plan including a clear organizational structure and clear objectives for the agency. At the time of this report, the MMI has completed PRR stage 1.

4.3 This chapter is divided into four sections:

- Section B: *Sector Description* gives a broad overview of past and current sector activities.
- Section C: *Institutional Framework* discusses the roles and responsibilities of MMI, activities by enterprises and stakeholders, demand for services, and strategies and policies in the sector.
- Section D: *Financial and Administrative Systems* considers improvements in financial management, budget planning, revenue streams, and budget formulation.
- Section E: *Next Steps* presents core recommendations for MMI in terms of frameworks and key actions. Additional details will emerge as essential sector policy and strategy work, a core "next step," begins.

B. Sector Description

4.4 The Afghanistan minerals sector mainly includes five major commodity groups (i) hydrocarbons, principally gas, (ii) solid fossil fuels, principally coal, (iii) base and ferrous metals, (iv) construction

[1] See World Bank (2004).

materials, principally crushed stone and cement, and (v) dimensional stone and gemstones. These industries were much more productive in the 1970s and 1980s, whereas existing mineral production is now limited to small coal operations in Baghlan and Bamyan provinces, limestone for three operating cement plants, construction materials (sand, gravel, crushed rock) nationwide, and gemstones and dimensional stone from artisanal operations. Hydrocarbon production is natural gas in the Sheberghan area. There has been limited production of oil in Sar-i-Pul, but this has been shut in. Current production falls far short of the sector's potential. Although still operating, all existing operations suffer from chronic neglect, damage from war, and severe under-funding. The resource endowment could support substantially larger operations. Furthermore, there are identified deposits of other minerals that have not been exploited. The most important are Aynak copper and Hajigak iron ore deposits.

4.5 MMI, through its gas and mining enterprises, produces commodities that can contribute significantly to increasing public welfare and economic growth: (i) energy fuels for residential and industry, (ii) metals for export, and (iii) construction materials for reconstruction and new infrastructure. The energy fuels are currently primarily:

- Gas produced in the northern Sheberghan field, much of which is consumed at MMI's fertilizer plant.
- Coal produced across the north of the country and consumed by thermal industries (cement, brick manufacturing, and other light industry) and for space heating.

Coal

4.6 Coal production currently comes from very small mines for which chronic under-funding has led to irrational mining practices. These mines are located along transportation corridors near to end-use markets or within trucking distance to larger centers such as Kabul. During the 1980s, the Russians began a program to (i) rationalize existing operations and (ii) significantly increase coal supply through large-scale development of the high-quality, larger Dara-i-Suf deposit.[2] The surface installations built at Dara-i-Suf were subsequently destroyed leaving only small-scale production that continues to degrade through exhaustion of remaining equipment.

4.7 Coal is an essential input for space heating and thermal industries (principally in the manufacture of cement and construction products). A greater than 80% reduction in the supply of coal has resulted from mining assets that are financially and physically exhausted. Official production has fallen to about 30,000 tons, with an additional 60,000 tons produced informally. Just ten years ago, official production levels stood closer to 250,000 tons.

4.8 Current operations now lack basic health, safety, and environmental standards, and have no working capital to improve operational efficiency. As operations revert to manual labor, end-users are shouldering the burden of these inefficiencies with coal prices that have risen to as high as $70 per ton from historical prices of $20 per ton. At current prices, there has been substitution of firewood for coal, exacerbating deforestation.

4.9 Reviving the coal sector to achieve past production levels is a priority to address essential heating and industrial needs. An immediate investment of $5 million, provided from the consolidated budget as

[2] The Dara-i-Suf deposit of high-grade coking coal is connected to the transportation network, shipping small quantities of coal to regional markets from the partially developed underground workings established in the 1980's. With proven reserves of 49 million tons and inferred geological reserves in excess of 75 million tons, the deposit is one of several along a belt that offers potential for large-scale commercial operations. The field is being assessed further by the U.S. Geological Survey as part of the nationwide coal assessment program

part of the Emergency Coal Assistance Program, and an additional investment of $4 million over three years will be needed to return coal supplies to about 190,000 tons per year (Table 4.1). Thereafter, additional mine planning and further technical assistance will be needed to further improve production.

Table 4. 1: Emergency Coal Assistance Program

Mine	Increase in Output / Reduced Production Cost	Expected Changes in End-Use Demand (Current coal demand for (i) domestic and light industrial uses is estimated at 155,000 tpy and (ii) cement end-use at 200,000 tpy)
Kar Kar / Doodkash	Current production about 30,000 tpy, can be increased to 75,000 tpy over 3 years with $3 million total investment. Phase 1: $1.5 investment increases production to a minimum of 45,000 tpy.	Puli Khomi Cement - Ghori 1 current output of 120,000 tpy requiring about 48,000 tpy coal, but the plant is in severe decay and may close. Ghori 2's future output is estimated at 300,000 tpy, requiring about 150,000 tpy coal.
Nahreen	Current production is 0 tpy but can be increased to 25,000 tpy over a 1.5 year development period. This operation could provide up to 70 permanent jobs.	A portion of the coal supply from this mine could be used to satisfy demand by the Ghori 1 & 2 cement plants. Otherwise, the 25,000 tpy would be used for residential / light industrial end-uses.
Ishpusta	Current production is zero but can be increased to 45,000 tpy over a 6 month development period. The mine could produce up to 70 new jobs.	45,000 tpy would be used for residential / light industrial end-uses.
Sabzac	Current production is zero but can be increased to 12,000 tpy after 2 years of development. The operation would employ 70 full time.	A cement plant proposed for Herat (Sabzac) would have a production capacity of 210,000 tpy and consume about 84,000 tpy of coal (after three years). An additional 12,000 tpy would be demanded by nearby residential end-uses.
Dara-i-Suf	Current production is zero but can be increased to about 36,000 tpy after 2 years.	Total coal demand for home heating and light industry in Samangan Province is unknown. The mine can supply ferrous industries within the region. There is a need to investigate obstacles to iron ore and other foundry industries within the area.

Source: Lapis (2004).

Cement

4.10 The cement industry has generated investor interest, and actions to enable the sector to recover and grow are closely related to coal supply (as noted above). A current assessment sponsored by the US Trade and Development Agency (USTDA) will take a holistic view of both existing capacity and the opportunity for a new Greenfield plant. Once this analysis is completed in early 2006, MMI will understand options and alternatives for this reconstruction of essential industry.

4.11 The cement market is open to competition, with 2 million tons per year imported at an approximate price of Afs 200 per 50 kg bag (about $160 million per year). Absent end-use material standards, there is no product discrimination, and price undercutting of domestic products by inferior imports occurs. End-use material standards would help the domestic industry and improve the performance of infrastructure projects.

4.12 There is a clear linkage between cement and coal. The Ghori 1 cement plant produces 120,000 tpy, requiring about 48,000 tpy of coal. A partially constructed Ghori 2 plant will have an estimated

production capacity of 300,000 tpy, requiring about 150,000 tpy of coal. A new, larger cement plant with having improved efficiency will still consume more than 200,000 tpy.

Construction Materials and Gemstones and Dimension Stone

4.13 The production of gravel, sand, and crushed stone for infrastructure development has largely been by the informal sector. Absent end-use material specifications, inferior product has been provided to major infrastructure development projects, and increased repair and maintenance costs are now an issue. The production of gemstones and dimension stone is for export by the informal sector, and significant royalties and taxes are being lost to the government.

Hydrocarbons

4.14 The majority of key geological data date back to the 1970s and 1980s. According to the data available in Afghanistan, one estimate the amount of remaining proven and probable recoverable reserves in the seven discovered gas fields is 1.5 trillion cubic feet (tcf) or 42.5 billion cubic meters (m^3), with another 0.8 tcf of possible reserves. There are 18 gas prospects or leads with an additional 0.9 tcf of "risked" reserves (scaled according to calculated probability of success of discovery). [3]

4.15 To put Afghanistan's gas reserves in perspective, Table 4.2 compares proven gas reserves in Afghanistan with those of its neighbors. The amount of gas in Afghanistan is very much smaller, but nevertheless it will be adequate for meeting domestic energy needs for a long time. If, for example, all proven gas reserves were used for power generation, 1 tcf could generate 128,000 GWh. Power consumption in Afghanistan in 2001 was 510 GWh. If per-capita consumption of power were to increase to that in Pakistan, annual power consumption would rise to 12,000 GWh. Even so, 1 tcf could provide power for the entire country for 10 years.

Table 4. 2: Proven Natural Gas Reserves in Afghanistan and its Neighbors at the End of 2003

Country	Afghanistan	Iran	Turkmenistan	Uzbekistán	Pakistan
Tcf	1	942	102	65	27

Source: British Petroleum (2004).

4.16 Although supporting data do not exist in Afghanistan, estimates of the ultimate gas reserves of northern Afghanistan have reportedly been around 9–10 tcf in shallow prospects and 25 tcf in deep prospects.[4] The absence of exploration data in Afghanistan makes it difficult to say much about these estimates, but these previously stated reserve estimates would suggest that further exploration might be worth undertaking in the long run.

4.17 There are no proven oil reserves:[5] probable recoverable oil reserves amount to 11.5 million tons, and there are possible reserves of 1.6 million tons. Nine oil prospects or leads provide another 3 million tons of risked reserves (Sofregaz and Energy Markets 2004). Given that 5 million tons per year is generally considered an economically viable size for refinery, the very small size of oil reserves would make economic development of Afghanistan's oil reserves difficult even in a country that imports nearly all of its petroleum product demand.

[3] Sofregaz and Energy Markets 2004

[4] Hill International 2004

[5] Although some oil production is occurring, the quantities involved are so small that Sofregaz and Energy Markets assigned no proven oil reserves on the grounds that no economic development can be assessed with the available information.

4.18 Gas was first commercially produced in Afghanistan in 1967, with Soviet aid which was designed to promote gas exports to the Soviet Union. Domestic consumption did not begin until 1975. By the mid-1980s, annual gas production averaged 2.5 to 2.6 billion m^3. After the withdrawal of Soviet specialists and capital in 1989, production began to decline. Production during the first half of fiscal 2003/04 was 90 million m^3, an order of magnitude lower than the historical peak level of production. Gas is currently priced much below the sustainable cost of production, and moreover payments for gas consumption are not always made.

4.19 Factors that deter (i) the State Gas Enterprise from operating effectively as a gas producer and (ii) the private sector from investing capital include:

- Absence of economic gas pricing principles.
- Late and non-payment by consumers, notably the Kud Bergh Fertilizer/Power Plant.
- Neglect for a decade or more of maintaining technologies that were already obsolete, and drilling rigs in disrepair.
- Lack of adequate geological and geochemical data.
- Lack of funds to do anything beyond meeting wage payments.

FISCAL PERFORMANCE

4.20 There are two sources for data on the fiscal performance of the sector, MMI and MoF. Reconciling these sources is difficult, and there appears to be major underreporting to MoF. One seems to be the reporting of net revenue, which is basically a cash profit number. This practice is likely to have led to underreporting of expenses and total revenue. MMI data appear better, but unfortunately MMI was able to provide data only for the first six months of 2004/05, for SOEs, and not for the preceding years due to personnel changes. Coordination with the work carried out by MoF's SOE Department might generate more reliable data, but there also seem to be major gaps in the data available at MMI. For example, it is not clear that there are historical and current records of actual payments made by and to SOEs; this is especially a concern as regards payments for gas consumption. To cover their expenses, some SOEs have diversified into non-core activities which in turn cross-subsidize their core activities. Financial accounts need to be unbundled (separate accounts for different activities) and cross-subsidization made transparent.

Operating Budget

4.21 The operating budget, funded from domestic revenues and external grants, covers most recurrent costs and some minor capital investments. The MMI's operating budget is relatively small (0.5% of the total national budget in 2005/06), but it has been growing somewhat over time (Table 4.3). This probably reflects some uncertainty in the way SOEs are budgeted (see below), as well as the transfers of functions from the Ministry of Food and Light Industry (textiles, cement, fertilizer, food processing, and carpets) as a result of the Cabinet reorganization in December 2004.

4.22 Available MMI data indicate that the operating budget finances the core operations of the Ministry, including the Afghanistan Geological Survey (AGS) and Oil and Gas Exploration Department, with relatively small amounts of the Operating Budget going to the Herat Zabsak Coal Mine Project and Herat Cement project (Afs 3.3 million) which are classified as under construction (these projects were started many years ago but have not been completed). For 2004/05, the reported operating expenditures for MMI totaled Afs 124 million.

Table 4. 3: MMI's Operating Budget in million (Afs million)

	2002/03		2003/04		2004/05		2005/06
	Budget	Estimate	Budget	Estimate	Budget	Estimate	Budget
Total	**23,647**	**n/a**	**40,200**	**222,065**	**126,406**	**123,993**	**150,670**
Personal Emoluments	6,389		9,200	97,855	98,036	110,753	119,400
Goods and Services	6,458		12,600	8,243	14,150	12,166	27,270
Acquisition of assets	10,800		18,400	115,967	14,220	1,074	4,000

n/a not available
Source: MoF.

4.23 The eight enterprises are reported as having no operating budget. However, their revenue is reported as both gross and net. MMI stated that each SOE prepares its own operating budget which is financed by its operating revenues. Further investigation is needed to determine the level of support provided by MoF, whether revenues are paid to the Treasury, and whether the operating budget funds are paid to the enterprises by MoF. Assuming that the operating budget of each enterprise is the difference between its gross and net revenue, the total operating budget for all the entities within MMI is calculated to be about Afs 1 billion on an annualized basis.

Development Budget and Programs

4.24 The Development Budgets in 2002/03 and 2003/04 understandably focused on (i) consolidating available data, (ii) assessing the state of the sectors that fall under MMI, and (iii) some emergency rehabilitation work, including building rehabilitation. A number of sector assessment studies have been carried out with funding from ADB, the US Trade and Development Agency (TDA), USAID, and the World Bank. These external funds have also been used to help design regulatory and contractual frameworks and sector master plans.

4.25 The Development Budget for 2004/05 comprised rehabilitation of government buildings, sector assessment and pre-feasibility studies, and emergency work in the coal sector. For 2005/06, the approved Core Development Budget for MMI totals $8.6 million, consisting of emergency rehabilitation work funded by ADB (gas pipeline and wells) and a coal project funded by the Government of Afghanistan. The External Development Budget set aside $1.9 million, funded by Japan, for a study on ground water resource potential.

4.26 Against the total allocation of $10.5 million, MMI had requested $153 million for 57 projects. It is informative to look at the seven largest requests, amounting to $106 million and shown in Table 4.4.

4.27 Five of the seven projects raise questions about the extent to which various studies and assessments conducted to date have been informing MMI's strategy and priorities:

- *New industrial parks.* Given the amount of work required to transform MMI into a regulatory body for its core functions, it is far from clear that launching a number of new industrial parks around the country is a high priority for MMI in the immediate future.
- *Gas pipeline to Kabul.* This project, which would cost $0.5 billion for the transmission pipeline alone, would need to be anchored on credit-worthy large consumers in Kabul, such as power producers. The total project cost, including investments needed for gas production, would be well in excess of $1 billion. Hill International, which carried out a pre-feasibility study for this pipeline, recommends that this project be reviewed in five years. The merit of

carrying out a more detailed techno-economic study at this point in time is highly questionable.

- *Oil and gas assessment.* This will be a useful exercise in the medium term, but the highest priority is to obtain more geological and geophysical information on the already discovered fields in the Sherberghan area, with a view to developing a viable gas market in the north, as commercial oil and gas production in the south, even if aerial surveys give promising findings, will be a long-term prospect.
- *Paper production factory.* This proposal is not consistent with the Government's policy stance that the Government should not invest in commercial and industrial activities that are normally carried out by the private sector.
- *Fertilizer and Power plant.* A detailed analysis of this complex by Hill International indicated that there is no economic way of rehabilitating the fertilizer plant. Even replacing the existing plant with a much larger and modern plant would be at best marginally economic.

Table 4. 4: Top Seven Requests for Development Budget Submitted by MMI for 2005/06

Project Description	US$ million *requested*
Construction of new industrial parks in 8 provinces; rehabilitation and equipment of industrials parks in Kabul (Pule Charkhi, Dehsabz, Kamari, and Bagrami), Wardak, Ghazni, Khost, Paktia, Kandahar, Herat and Nangarhar.	61.30
Technical economic studies of North-Kabul gas transmission pipeline and distribution network System for Kabul City	10.00
Oil and gas resource assessment in Katawaz and Helmond as well as nationwide air magnetic survey	10.00
Establishing of paper production factory in Kundoz .	7.50
Rehabilitation of Afghanistan Geological Survey Building and Farming working Group	6.00
Rehabilitation and equipment for Mazar Fertilizer and Power Plants	6.00
Coal Project	5.00
Total	**105.80**

4.28 Out of 57 projects proposed, eight were for rehabilitating existing production facilities, three for building new factories, and four for feasibility studies for establishing new companies. In the future, project proposals should be brought more closely in line with the Government's overall strategy toward public/private sector development. In particular, rehabilitation of existing assets using Government funds should be carefully examined and undertaken only if there is virtually no prospect of private participation and the activity is considered essential and brings social benefits (see also Volume III, Chapter 4).

Revenue

4.29 The data provided by MMI for the first six months of 2004/05 indicate that the total annual revenues from SOEs are about Afs 920 million. However, in discussing these revenues with MMI, it was noted that they are projections rather than actual receipts. The major part is based on hydrocarbons, with the power and fertilizer operation and gas production being the main contributors. Revenue from coal production is only around Afs.70 million ($0.9 million). This is substantially below the arithmetically estimated revenue of $1.6 million. Understanding this gap will require an in-depth review of the production fields and the flows of funds. Revenue data for the full 2003/04 fiscal year would very useful to provide confidence and analyze any trends.

4.30 It is important to note that some of the gross revenues shown involve intra-ministerial transactions. Notably, the bulk of gas produced by the State Gas Enterprise is sold to the Kud Bergh

Fertilizer/Power Plant, although the latter reportedly does not pay regularly for natural gas. The sum of net revenues properly accounts for intra-ministerial transactions. The figures indicate that total annual net revenues amount to about Afs 50 million.

C. Institutional Framework

4.31 The overall objective of MMI is to facilitate supply of hydrocarbons, coal, metals, construction materials, and gemstones/dimension stone to essential downstream industries at least cost to society and at a quality that is optimal for Afghanistan. Realizing this goal requires transforming these activities into competitive, efficient, safe, and environmentally sound activities that are able to attract the financing needed for rehabilitation or reconstruction, maintenance, and expansion of their assets and activities.

4.32 International experience and economic analysis suggests that the Government should perform a regulatory function in this sector. Government intervention (not necessarily carried out by MMI; other ministries and government agencies may take the lead) is needed under all circumstances to monitor and act upon price collusion; commercial malpractice; non-compliance with health, safety, environmental, and technical standards; and monopolistic behavior in a potentially competitive market segment.[6] In addition, economic regulation is needed where there is a natural monopoly (such as gas pipelines or large storage facilities) or where there is inadequate competition. Finally, the Afghan Constitution itself grants underground property to the State (Article 9). On the other hand, there is very little justification for direct intervention in the sector: if activities are profitable, the private sector almost invariably proves itself more effective than the State.

4.33 Today, all hydrocarbon activities are controlled by the Government. Current small-scale coal mining is partially controlled by the Government, whereas mining of construction materials and gemstones/dimensional stone are both unregulated and informal. Overall, the conditions of hydrocarbon and small-scale coal mining activities are not conducive to private sector participation. Nonetheless, for these small coal operations there is both an economic and humanitarian rationale for sustaining supply. Coal is essential for necessary downstream industries and space heating in a nation where more than 250,000 children die each year from simple colds. Hence until such time as the private sector enters into this market to develop larger commercial operations, active government involvement in the sector beyond a regulatory role will remain during the interim.

4.34 Larger, commercial-scale coal, metal, and construction material mining will be of interest to the private sector, subject to a competitive investment climate. Thus there is little justification for direct government involvement in these activities.

4.35 Therefore the near to medium-term will be a transition period to transform those state operations that can be independent of budget support and improve their financial basis (in the process of corporatization and commercialization). This path sees the ultimate objective as having SOEs act no differently from any private sector firm, paying taxes, fees, and where applicable royalties, and receiving no budget support from the Government for their operations.

ROLES AND RESPONSIBILITIES OF MMI

4.36 The Government has stated its intention to move toward a private sector-led model, with the Government carrying out regulatory function (see Afghanistan Government, 2002 and 2004, and more

[6] Some activities, typically those requiring large up-front investments, are potentially competitive but may take time to develop effective competition. Gas production in Afghanistan is one such example.

specifically the Policy Statement in World Bank, 2004). On this basis, the roles and responsibilities of MMI fall into the following three main areas:

- *Setting sector policy.* The most important role of the MMI is to set and implement policies for the mining, hydrocarbon, and industrial sectors that fall under MMI. MMI will take the lead in formulating policies and drafting laws, regulations, standards, and model contracts.
- *Regulating natural resource production and industrial activities.* MMI will take the lead in (i) negotiating and issuing licenses and contracts and (ii) ensuring compliance with laws, regulations, licenses, contracts, and standards. Working closely with other ministries, MMI will also engage in economic regulation where there is a natural monopoly or little effective competition. Regulation requires that MMI be able to measure or verify production; calculate royalties, fees, and the Government's petroleum production share; and inspect and make necessary measurements to check compliance with health, safety, and environmental standards.
- *Moving to market- and private finance based sectors.* At present, all or most activities in individual sectors are financed and managed by the Government. MMI is therefore a regulator and an operator. The Government of Afghanistan wishes to move all SOEs engaged in commercially oriented activities out of government control in due course. The primary role of MMI will be to maintain an up-to-date database on natural resources and production, provide vital data and information (such as production, sale, exports, imports, prices) to private sector participants in a timely manner to help in investment and operation decisions, and promote the sectors to potential investors. Together with MoF, MMI will lead this transition from government-owned and controlled to private sector-run in mining, hydrocarbons, and industry.

4.37 However, absent a minister for much of the past three years, no overarching strategy or prioritization of strategic investments has been formulated (see below). This has impeded reforms on policy formulation and implementation (for example, tender of the Aynak copper mine) and has led to serious debates with very significant financial ramifications for the Government, on proposed programs that do not reflect high-priority MMI needs.

STRUCTURE OF MMI

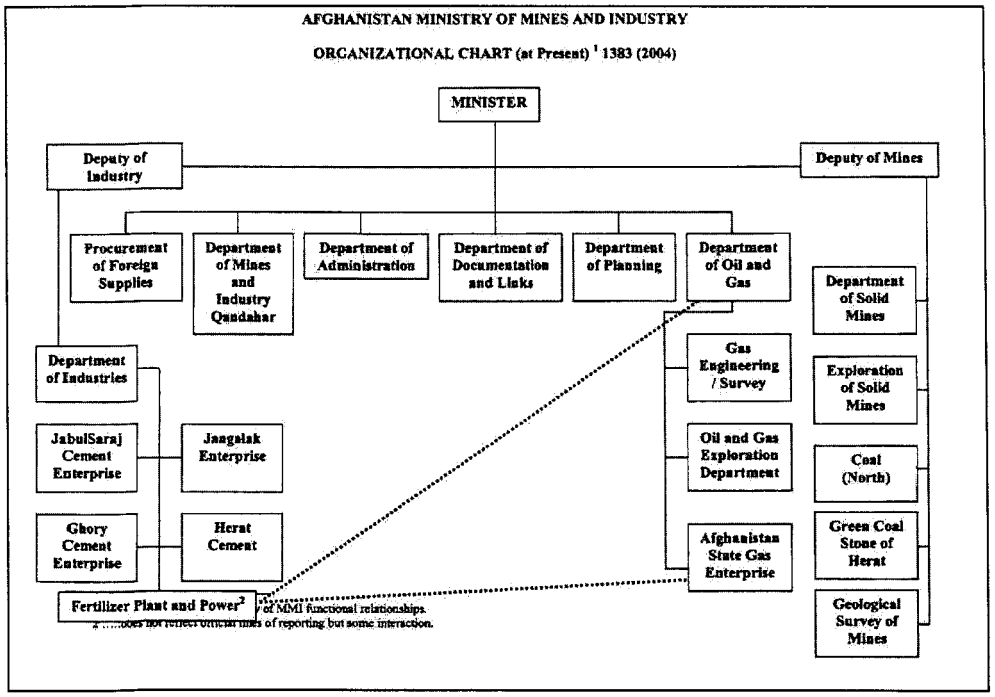
4.38 For the past several decades, MMI has been centered on the extractive industries and associated heavy industries: (i) mining of minerals and construction materials, (ii) petroleum exploration and production, and (iii) the operation of downstream industries that utilize extractive industry output. A December 2004 reorganization of the Government expanded MMI's portfolio to twenty one SOEs as well as a lesser number of budgetary units that function as SOEs. Today, MMI no longer seeks to maintain this structure, but rather to transition to market-based operations where SOEs will be divested from the Ministry, except insofar as the Ministry retains regulatory oversight functions.

4.39 SOEs represent a significant financial, technical, and human resource liability for MMI. With external assistance, MMI has formulated a strategy that would allow it to become a policy making and regulatory body over the course of the next 18 to 24 months. Adding essential regulatory functions to the overall dysfunctional structure of MMI will not lead to meaningful results. There is a need for prudent, systematic, and comprehensive divestiture of the SOEs, optimally over the next 2 – 4 years. As this transition occurs, MMI will reposition itself and transition into a policy-making and regulatory agency. If the SOEs are allowed to continue to stumble along as commercially non-viable entities, they will divert MMI's attention and limited resources.

4.40 The three sub-sectors have significant differences in terms of industrial organization, leading to varying policy requirements and expenditure/revenue flows from the operating enterprises. In addition, MMI has several supporting departments whose "clients" are the enterprises and whose principal functions involve technical analysis. During the ongoing PRR, MMI management is seeking to rationalize this very complex organizational structure under two offices: (i) Deputy of Industry, and (ii) Deputy of Mines. These offices would encompass all operating and non-operating enterprises together with key technical support departments. Remaining at the heart of MMI would be the core functions of procurement, planning, and administration.

4.41 The principal SOEs have been identified and described as part of ongoing work by the SOE Department of MoF. The enterprises and departments include the Mines Extraction Company, North Coal Enterprise, State Gas Enterprise, Jabal Seraj and Ghori 1 Cement Enterprises, Kud Bergh Fertilizer and Power Enterprise, Jangalak Enterprise, Hydrology Engineering Research Service Enterprise, Afghan Geological Survey, Department of Oil and Gas, and the Oil and Gas Exploration Department. Also mentioned are two non-operating enterprises: The Technical Services Enterprise and Rukhaman Marble Enterprise. The relationships between various administrative units of MMI and the enterprises are shown in Figure 4.1.

Figure 4. 1: Current Structure of MMI Excluding Light Industry



4.42 Important or large enterprises and departments are highlighted below:

- *Mines Extraction Company.* The former Law of Mines, now replaced by the new law, assigned to this company exclusive rights to all mineral and metal deposits other than coal and hydrocarbons. It enters into contracts with private firms for extraction of minerals and metals. Revenues and expenditures appear to be neither recorded nor reported.
- *North Coal Enterprise.* This enterprise suffers from long-standing neglect of the mines, lack of development capital and maintenance budget, and the adverse effects of poor past mining practices. Annual production is down from 250,000 tons as recently as 15 years ago to 30,000

tons currently. The enterprise also purchases for distribution an additional 60,000 tons of coal per year from artisanal production. Capital investment of $5 million is needed immediately (and is being provided as emergency assistance through the development budget), with an additional $4 million over the next three years to return production to 190,000 tons per year (tpy). Annual coal demand for cement alone could easily reach 200,000 tons in the not too distant future.

- *State Gas Enterprise.* From the daily peak production of 11 million m^3 in 1978–79, the State Gas Enterprise is currently producing 0.5 million m^3 per day. Infrastructure for local production of gas, treatment, and transport is non-existent or is functioning inefficiently.
- *Cement Enterprises.* Ghori 1 and Jabal Seraj are two operating cement enterprises. Ghori 2 and Herat cement plants are under construction and are classified as Project Units. Only Ghori 1 is producing at a reasonable level (50% of capacity). Coal and electricity shortages are the main constraints on production. All four enterprises use technology that is obsolete and much less efficient than modern processes.
- *Kud Bergh Fertilizer and Power Plant.* This plant uses inefficient and obsolete technology and suffers from high operating cost, extensive cannibalization of equipment and machinery, and lack of readily available spare parts. It is not a viable entity, and even full rehabilitation is not expected to make this plant economic. The gas sold to the plant is priced below the cost of sustainable production. Even at the current low price, this plant has not been paying regularly for gas, the primary feedstock.
- *Afghan Geological Survey (AFG).* AFG has been receiving assistance from the British Geological Survey (BGS) and the U.S. Geological Survey (USGS). There was significant geological mapping of the country between 1967 and 1971 by Italian, German, Soviet, and Afghan geologists. Soviet and Afghan geologists have also in the past completed mineral evaluation studies on 110 deposits.
- *Department of Oil and Gas.* Created in 2003, this department is responsible for the State Gas Enterprise and the Oil and Gas Exploration Department.
- *Oil and Gas Exploration Department.* This department has 1,800 employees with no specific drilling tasks. There has been no funding for field services for a number of years.

OTHER KEY STAKEHOLDERS

4.43 ***The Government.*** As a regulatory agency, MMI has principal relationships with the following ministries:

- *Ministry of Finance.* MoF is supposed to receive revenues into the General Consolidated Account from (i) MMI's assessment of annual royalties on mineral production, (ii) the Government's share of hydrocarbon production, and (iii) assessed fees on exploration or exploitation of land holdings. MMI Mines Cadastre will interface with MoF on registering such payments and officially recording mineral rights as being in "good standing" (subject to compliance with all other MoF taxes). MoF sets all fiscal policies relating to (i) taxation, including the prevailing 20% income tax and 20% withholding tax on dividends, and (ii) customs duties including on temporary importation of equipment and/or favorable customs rating of equipment for use in export industries. MoF will also be closely involved in setting tariffs for gas, pipelines, and other goods and infrastructure that require economic regulation. MoF has also been tasked by Presidential Decree to assess the economic viability of SOEs and to recommend and oversee the necessary economic restructuring of enterprises.[7]

[7] See Volume III, Chapter 4.

- *Ministry of Energy and Water.* One significant future use of natural gas is in power generation. Reliability of gas production as well as its pricing will have a large impact on the electricity sector. Close collaboration with the Ministry of Energy and Water (MoEW) is therefore needed.[8]
- *Ministry of Commerce.* The Ministry of Commerce (MoC) focuses on trade and investment policies. Coordination between MMI and MoC is important because MoC is charged with developing a sound business environment and is in the process of establishing a Standards, Metrology, Testing, and Quality unit.
- *Ministry of Economy.* The Ministry of Economy is expected to focus on macro-level economic modeling and forecasting, reviewing social and sectoral policies from an economic point of view, and in particular supporting line ministries in implementation.
- *Ministry of Justice.* The Ministry of Justice (MoJ) reviewed and submitted to Cabinet for approval the Minerals Law with technical support from MMI. The Minerals Law was passed in July 2005. A similar process is underway with the draft Hydrocarbons Law. On an ongoing basis, MoJ will play an instrumental role in the resolution of mineral-related disputes.
- *Inter-Ministerial Committee.* A committee will be established by Cabinet Decree to assist, among others, MMI in negotiating mineral and hydrocarbon rights and contracts. The scope of this committee and the precise areas that it will cover have not been decided.

4.44 ***The Donor Community.*** MMI interfaces across the broader donor community and is continuing to face many challenges in coordinating donor activities. According to the new ministry structure and functions proposed by IARCSC, the Office of the Minister (OoM) is envisaged as the first point of contact for the donor community and will coordinate donor activities. The external budget provided by the donor community will be monitored by the Office of the Chief Financial Officer. Principal donors involved in the sector include the United Kingdom, the United States, Japan, the World Bank, and ADB.

- *British Bilateral Assistance.* The British DFID is providing about $5 million technical assistance to build professional capacity at AGS, create a Mining Cadastre office, perform mineral resource assessment, undertake sector promotion, and contribute toward rehabilitation of the Kabul offices of AGS which were badly damaged during the war.
- *United States Bilateral Assistance.* The United States Geological Survey (USGS) through USTDA and others is providing direct technical assistance for a mineral resource assessment, geophysical surveys and compilation across gas fields, geochemical surveys, cartographic mapping, hydrogeology studies, and professional development within AGS. USAID has contracted work on legal and regulatory reform, providing direct technical assistance to the Minister of MMI. The US Embassy is contributing toward rehabilitation of the AGS building. USAID has recently expressed interest in supporting a comprehensive program for the disposition of MMI's SOEs.
- *Japanese Bilateral Assistance.* Japan, through JICA, is assisting the Hydrology Engineering Research Enterprise.
- *The World Bank.* The World Bank has provided technical assistance in the preparation of draft Minerals and Hydrocarbons (Exploration and Production) Laws, the PFM Review, provision of consultants to the Emergency Assistance to the Coal Sector program, and preparation of a preliminary energy strategy note for Afghanistan. Planned technical assistance includes "Emergency Coal Mine Rehabilitation / Stage 2: Mine Planning, Preparation of Mining Regulations and possibly a Model Contract," creation of a Mines Inspectorate, and the tender of Aynak. The World Bank has also funded an assessment of the

[8] See Chapter 3 of this volume.

private investment climate in the petroleum sector and, through USTDA, gas market analysis, gas production scenarios, and assessments of future options for the fertilizer/power plant, a gas pipeline from Sherbergan to Kabul, and different commercial options for use of crude oil.

- *The Asian Development Bank.* The Asian Development Bank has been active in the natural gas sector, having undertaken a number of studies and prepared a gas master plan, and is now supporting an emergency program to rehabilitate gas infrastructure including 12 gas wells in Sheberghan and a pipeline. Its current technical assistance includes institutional strengthening provided by the Canadian Petroleum Institute and regulatory strengthening provided by Energy Markets. ADB is planning a second gas sector project to begin in 2007.

4.45 MMI currently has little oversight over production of construction materials. Tens of millions of dollars' worth of these materials are being produced illegally and consumed by donor-executed infrastructure projects across the country. There is no recording of production and nor are materials standards in place to ensure that funds used to purchase construction materials are well spent. MMI must gain control of this sector to secure royalty payments and introduce materials standards.

LOOKING AHEAD[9]

4.46 Prospects in the sector should take two key parameters into account. A first parameter is time: should the country's key commercial energy resources be used for development today, or should they be held in reserve for future development? A second parameter is to find the appropriate balance between the State and the private sector in leading energy sector development, and to derive the institutional and legislative reforms required to achieve this balance.

Hydrocarbons

4.47 Preliminary analysis indicates that private sector participation in hydrocarbons is unlikely in the near term, but improving the information base through conducting geological surveys, establishing market-based gas pricing principles, and restructuring and commercializing the State Gas Enterprise is a high priority.

4.48 There is a consensus that gas development for power generation would be an important first step. Current estimates of the cost of gas production make the price of electricity from domestically produced gas comparable to the economic opportunity cost of power, namely imported electricity. The gas market today has one large user which is reportedly not paying regularly for gas, and a number of small users. In principle, a large user (such as a power plant) that is able and willing to pay a market-based price for gas promptly can make the production of gas economic and financially viable. USAID is in the process of completing a feasibility study for gas-to-power production at Sheberghan, with the objective of supplying electricity in the northern region as well as to Kabul.

4.49 As for the rest of the market, the following reform steps are needed before gas development can become commercially viable: (i) commissioning an inter-ministerial gas working group to establish gas pricing principles and formulas; (ii) establishing a functioning billing system; (iii) demonstrating prompt payment of bills based on the gas pricing principles formulated by the inter-ministerial group; and iv) operating the State Gas Enterprise on market-based principles. To this end, improving the information base, establishing market-based gas pricing principles, and restructuring and commercializing the State Gas Enterprise are high priorities.

[9] This section draws in part on World Bank (2005)..

Mining

4.50 Across the four major commodity groups within the solid minerals sector, immediate attention is equally focused among the top three: metals, construction materials, and coal. Across these commodities, there is differentiation between immediate private sector participation for metals and construction materials and an interim strategy to attract private sector participation into cement and coal.

Metals

4.51 Preliminary analysis indicates that private sector participation in copper exploration and development is probable in the near term, subject to continued political stability and field security in Logar province. The Aynak copper deposit was discovered in 1973 and was progressing toward advanced feasibility studies when the war erupted. The World Bank has worked with MMI to define an internationally competitive tender process and application has been filed with TAFSU for funding. The process will be technically supported by the British Geological survey and Afghanistan Geological Survey. Although investor interest is strong, Aynak faces challenges. It is a good mineral resource that is very remote from end-use markets and poor infrastructure linkages. Getting equipment in and finished product out could prove overly problematic.

4.52 Should mining proceed, it is likely to progress to larger tonnages as the operation develops in stages. Both copper cathode (finished product) and copper concentrates could be exported. Preliminary indications from data compilation and field examination suggest that the Aynak mineral belt also has several additional known deposits, and that prospects are good for additional discoveries. Improving the information base through conducting geological surveys is essential.

4.53 Large deposits of iron ore, principally at Hajigak, have significant private sector investment potential. This is a globally traded commodity experiencing historically high prices and strong demand within the region (notably China). At present these deposit are in need of analysis to better understand deficiencies relating to infrastructure, a reliable supply of energy, and the need for coking coal (the Dara-i-Suf coal field is in the same region). Given the strong economic outlook for iron ore and steel, these deposits warrant high-priority attention and a better understanding as to what actions MMI and the Government more generally could take to facilitate private sector participation.

Construction Materials

4.54 Preliminary analysis indicates that the production of construction materials is dominated by the informal sector. The demand for construction materials, principally crushed stone and cement, moves in parallel with infrastructure development and reconstruction. A common strategy to formalize this sub-sector is by setting materials standards and legal/environmental compliance for material entering major infrastructure development projects. This is in the best interest of the donor community to ensure infrastructure performance and for MMI to develop materials standards and cooperative extension services. The remaining informal sector may continue in the interim to supply residential and other non-technical uses, but will also need to be formalized to prevent further environmental degration.

Cement

4.55 Preliminary analysis of cement industries by international investors has led to expressions of interest in investing in the sector, principally in the Ghori operations. Upon further investigation, investors have been deterred by technical and economic issues along with uncertainty in coal supply. Ongoing donor-funded highway and infrastructure projects and proposed infrastructure development projects are partially reliant on imported (and smuggled) cement having poor quality. In the near term,

MMI should continue with development of an interim strategy to assess the commercial viability of the domestic cement industry and thereafter take warranted actions to attract private investors into the sector. Given the ongoing demand for cement in infrastructure development and reconstruction, this sector warrants a high priority.

Coal

4.56 Preliminary analysis of small state-owned coal mines suggests that these operations are not commercially viable in their present state. Nonetheless, these operations are essential for downstream industry and space heating. As an interim strategy, MMI should continue with its current plan of emergency technical assistance to provide basic equipment that can sustain current levels or return production to historical levels to reduce prices and lessen the social burden. Additional mine planning may further reduce operational costs and improve health and safety standards. Should these mines be privatized in the future, caution should be exercised to value the underlying coal resource in addition to the operating asset. Lessons learned elsewhere demonstrate how governments unintentionally give away large energy resources through the sale of small, inefficient SOEs.

4.57 Preliminary analysis on the potential for a large coal mine in the Dara-i-Suf region suggests possible commercial viability. The USGS coal assessment program is investigating sites for a new commercial coal mine that could supply expanding thermal industry demand (including coking coal for iron ore, additional cement production, and other light industry lost during the war) and future power development. Preliminary cost engineering calculations for Dara-i-Suf suggest large resources offering typical production costs of less than $12 per ton.

REFORMING THE SECTOR: CHALLENGES

4.58 Transforming MMI, from the owner/operator of SOEs to carrying out primary functions of setting and implementing sector policies and regulating private sector activities, poses a number of challenges, as outlined in Table 4.5 below.

Table 4. 5: Challenges of Implementation and Regulation

Strategy formulation	MMI has no experience in formulating sector strategies and policies for private sector growth. The absence of an overarching development strategy and prioritization of strategic investments by MMI and donors directly impacts on financial planning. Decisions are poorly coordinated, often *ad hoc*, and not prioritized according to immediate, interim, and longer range planning horizons. During the last budget cycle, an effort was made to fill gaps in the MMI budget planning process and to minimize the overlap of donor projects within the sector. This mitigated the adverse effects of past problems some but did not result in a unified program for the Ministry. Strategy formulation entails gaining a better understanding of the factors that make economic activities efficient, the optimal sector structure, appropriate legal and contractual framework in the context of Afghanistan, and how best to handle SOEs in the coming years.
Improving investment climate	In order to transform the sector from one that is dominated by SOEs into one that attracts private capital, the investment climate needs to be improved. This will entail establishing a clear, transparent, and stable legal, fiscal, and contractual framework; providing essential sector data and information to investors; establishing economic pricing principles where needed; fostering cultural acceptance of payment for goods purchased at market-based prices; an efficient administration that can take decisions on investment and implement them in a timely manner; and working with other ministries to ensure that adequate supporting infrastructure (such as roads, telecommunication) is provided. Where licenses or contracts are issued through competitive bidding, MMI needs to have the capacity to draft and issue tender documents, assess the qualifications of bidders, evaluate bids, select the winning bid, and negotiate with the winning bidder. Being able to do this efficiently and in a transparent manner contributes to improving the investment climate.
Economic regulation	Where there is inadequate competition or a natural monopoly, economic regulation is required. MMI needs to establish tariff principles and formulas or price ceilings as needed, regulate transport (pipelines) and the use of large storage facilities, and implement regulations effectively in collaboration with other affected ministries.
Health, safety, environment, and social protection	Current operations do not adhere to internationally acceptable health, safety, and environmental industry practice, in part on account of lack of standards and regulations. Uncontrolled coal fires, unacceptable surface and underground mining practices, the potential for methane gas poisoning and explosions, and widespread environment degradation persist. The need to address mining and community issues is recognized, but as yet there is no plan for formally consulting and integrating communities into the decision making process. To address these issues, the first step would be the creation of overarching mineral policies and laws in which safety, social, and environmental standards are embedded in planning, operations, and closure documents. The prevalence of unsafe and environmentally damaging practices is a deterrent to attracting credible strategic investors into the sector.
Enforcement	Having established contractual and licensing obligations, regulations, and standards, MMI needs to ensure their enforcement. Ensuring royalty payments requires that production be accurately assessed and recorded and royalty calculations checked. In the case of hydrocarbons, the calculation of the Government's share of production needs to be certified. Enforcing gas pricing principles means that gas sold must be metered, consumers billed in a timely manner, and payments collected promptly.
Financial management	Under the leadership of the Chief Financial Officer, MMI needs to strengthen its recording of budget appropriations and revenues, grant and cash management, fiscal reporting and accounting, internal control, and budget execution.

Moving Forward

4.59 Successfully transforming MMI to handle its regulatory roles will require a number of actions. The remainder of this section summarizes key regulatory and technical steps, while the next section deals with financial and administrative reforms:

- *Creating a Modern Legal and Regulatory Framework.* The Minerals Law was passed in July 2005. Terms of reference have been prepared to engage legal experts to help the Government draft mining regulations and a model contract during 2005. MMI is working with MoJ to submit the draft Hydrocarbon Law to Cabinet. The regulations to implement the Hydrocarbons Law and a model contract for exploration and production sharing have been drafted, and the model contract will form a basis for negotiation of new production. Both Minerals and draft Hydrocarbons Laws reflect international standards of quality, apply to all investors local and foreign, and provide the basis for transparent allocation of mineral and hydrocarbon rights to private entities.
- *Adopting an Internationally Competitive Fiscal and Mining Taxation Package.* MoF completed preparation of draft tax amendments for extractive industries in July 2005. The draft amendments exempt qualified extractive industry taxpayers (QEITs) from the business receipts tax; provide for ring-fencing by license or contract area, accelerated depreciation, and unlimited loss-carry forward; and authorize the Minister of Finance to grant tax stability to QEITs who agree to pay an income tax of 30% rather than the standard 20%. Neither the Minerals Law nor the draft Hydrocarbons Law contains royalty rates. Draft mineral royalties give a range (minimum and maximum) of rates to enable MMI to negotiate contract-specific rates in coordination with the Inter-Ministerial Committee. This allows MMI to provide some relief to more remote or otherwise higher-cost operations as an economic stimulus for development. For hydrocarbons, royalty rates are left to be defined in the contract. One significant difference between the two laws is that contracts will take the form of production sharing agreements (with the exception of pure service contracts). Currently the model contract stipulates that, when the rate of post-tax return exceeds 15%, production will be shared equally between the investor and the Government.
- *Building Technical Capacity.* Both BGS and USGS have strong programs targeted toward professional development within MMI, principally in AGS.
- *SOE Reform.* MoF is responsible for overseeing SOE reform. Its SOE Department has already developed an approach to SOE reform and a preliminary classification of SOEs. MMI needs to fully engage MoF on this issue so that strategic considerations, such as the need to retain production of certain essential commodities in the short term given the lack of private sector investment and technical sectoral expertise, are fully taken into account in the strategy and its implementation.[10]
- *Regularizing the Informal Sector.* This is needed to effectively regulate informal construction material operations to enforce legal, environmental, and social compliance.

4.60 These essential reforms and regulatory activities fall across legal, taxation, and institutional regimes, as summarized in Table 4.6.

[10] See Volume III, Chapter 4.

Table 4. 6: Legal, Fiscal, and Administrative Reforms

Legal & Regulatory	Fiscal & Mining Taxation	Institutional Strengthening
• *Mineral Ownership*: State ownership of all mineral resources; government authorization to grant private access to mineral rights; • *Regulatory Authority*: The state as regulator of private sector mining, rather than as explorer, operator, or equity-owner; • *Mineral Rights*: Basic terms, and the procedures for granting such rights – made available to the private sector; • *Security of tenure*: Transferability of title, other investor rights; • *Disposition of State Assets*: Successful tendering of key assets; • *Environmental Protection*: Create effective environmental law and regulations; • *Special considerations*: Special regulation of construction materials and small scale mining.	• *Legislation*: Tax legislation that is simple, clear, and stable; attracting private sector investment through stability, transparency, and a level playing field; • *Competitive Fiscal Regime*: Royalties and production share that reflect international standards, and competitive tax concessions; • *Effective Administration*: Ensuring that MoF and MMI work closely on common issues of effective taxation, administration, and collection; • *Setting Priorities*: Focusing on near-term production and royalties from ongoing production activities while seeking to attract new private sector investments.	• *Mines Cadastre*: For the effective issuance of mining rights and assert government control; • *Mining Inspectorate Unit*: Monitor and control of mining sector activities as well as transparent and uniform enforcement of laws and regulations; • *Geological Survey*: For acquiring and organizing geo-science information and supporting sector promotion; • *One-Stop Shop*: For investor inquiries; • *Develop environmental and social management capacity*: With emphasis on safeguard policies for vulnerable groups; • *SOE reform*: Engage MoF to support SOE department process; • *Small Scale Mining*: Extension services to improve the productivity and living/working conditions of small scale miners.

4.61 To implement these steps, MMI needs institutional strengthening and long-range budget planning to (i) improve public expenditure and financial management, (ii) define a master development strategy, and (iii) transform the ministry into an agency performing primarily regulatory functions. Actions to date have been donor-driven and *ad hoc* without an overarching strategy that reflects the long-range plan for sector growth. The next section focuses on the issue of financial and administrative capacity strengthening.

D. Financial and Administrative Systems

4.62 The current problems in financial accounting and budget planning have been discussed in Section A of this chapter. How they have arisen and issues that need to be addressed are discussed below.

IMPLEMENTATION ISSUES AND ACCOUNTABILITY FRAMEWORK

Accountability Framework

4.63 To improve performance, the accountability framework should be strengthened (see also the section on administrative structure). MMI is different from most other ministries in that it has very limited direct contact with the public. Its services are directed to the Government and support of SOEs. Under the State Owned Enterprise Law (1991), SOEs are legal entities with financial control by the SOE Department at MoF. Implicitly, operational control remains with MMI. Most of the SOEs are theoretically commercial ventures although none operate on a commercial basis at present. There are no financial controls, and basic data collection is poor. Better accountability vis-à-vis the Government requires strengthening MMI's capacity to formulate and execute its budgets.

Budget Formulation and Execution

4.64 MMI has not established a formal budget allocation process. The operating budget allocated by MoF is used for basic need and is heavily weighted toward meeting payroll and operating expense for the Ministry, leaving little scope for discretionary spending. Little or none of the operating budget is allocated to programs that will change the direction of the Ministry toward becoming a regulatory agency. The operating budget could be used more effectively if there is a rationalization of the workforce, but this will require restructuring to realize the new mission of the Ministry.

4.65 Allocation of expenditures among provinces has not yet become an issue; funds have been going simply to maintain existing operations. In the future, once additional funds become available for data collection and other activities that go beyond the bare minimum needed to continue ongoing operations, the regional allocation of resources within Afghanistan may require prioritization.

4.66 The Ministry has tended to be reactive to issues relating to the development budget and, as a result, the allocation for the mining investment program has been relatively small. The major projects have been initiated by donors. This has been done with varying levels of discussion with Ministry staff. Most of these projects have been aimed at developing the resource base or feasibility studies for other future projects. Funding requests from the Ministry have been mainly for emergency projects to maintain existing production. The Ministry can also improve formulation of requests to build basic management information systems. Such requests have not always matched needs.

4.67 The small size of the development budget also reflects problems with donor-assisted programs. Issues include insufficient consultation during the design and preparation of the program, the time it takes to prepare and implement a program, lack of adequate communication from the donor regarding the status of the program and near-term steps required, and insufficient briefings and discussion once reports are delivered. There have been more concerted efforts between MMI and donors as well as among donors in recent months to coordinate activities, eliminate overlap, and identify the most pressing needs on a short-term basis. However, more discussion with donors is needed to develop future plans, consider long-run objectives, and examine how individual projects would contribute to meeting sector objectives.

CAPACITY BUILDING

4.68 Many of the current problems with budget preparation stem from lack of capacity; hence the need for capacity building. There is also a need for basic communication infrastructure improvements. The information systems in operation at MMI are a legacy of Soviet record-keeping at a low level of functioning. There is no inter-connectivity of operations at the communications level at MMI. Kabul and region-based MMI operations rely on inadequate mobile telecommunications, telegraph, and personal communiqués to transmit information and data. There is no computerized system for information management, and file keeping is conducted by an entire department of mid-level MMI staff. All ministry correspondence is tracked by hand by one individual who is supported by a team of three staffers. Government rules on ministry correspondence/filing need to be addressed as they relate to hand-written files.

4.69 There are only two computers at the Ministry with internet service, leading to poor communication with donors. There is essentially no basic management information system or information technology (IT) function. Ministry staff are virtually unexposed to computers. Computers are used at the Ministry to a limited extent, but primarily for data storage or as typewriters. There is no building-wide local area network (LAN) system. Some data are kept on computers in Kabul, but there is no detailed analysis (and not much capacity to do the appropriate analysis).

4.70 A personnel needs assessment should be undertaken. Efforts to recruit recent college graduates should be given high priority. This might include (i) one year on-the-job technical training to be a field technician or junior accountant, and (ii) two year "associate degree" programs in engineering, accounting, or general business. These programs might be undertaken with Kabul University or in cooperation with Western universities that have similar programs.

4.71 There remain gaps in the qualifications of Ministry staff to undertake regulatory functions, particularly negotiating contract provisions with foreign investors. This will be a financial management issue during the Aynak tendering process.

ADMINISTRATIVE FRAMEWORK

4.72 An administrative framework is needed that MMI could use to address these problems and possibly support broader reforms. This framework is based on two considerations. First, the Government has defined an overall structure for implementation of financial management and ministry strengthening.[11]

Table 4. 7: Overall Structure for Implementation

Office of the Minister	The Office of the Minister will act as the first point of contact for the donor community with MMI and will provide advice to the Minister on legislative and Cabinet affairs.
Deputy Ministers	Deputy Ministers, who are political appointees, help coordinate and supervise the preparation of MMI's policies and programs and link with the work at the government level.
Chief Financial Officer	The draft Public Finance and Expenditure Management (PFEM) Law requires each ministry to appoint a Chief Financial Officer (CFO). The CFO is responsible for the preparation and submission of the draft budget to MoF and for fulfilling all of MoF's reporting requirements. The CFO is also required to record transactions, maintain accounting records in accordance with Treasury instructions, and provide copies of the accounting records to Treasury when requested.
SOE High Council and Governing Body	The draft PFEM Law requires each SOE to have a High Council and a Governing Body. SOEs are required to keep accounts and financial records in accordance with International Accounting Standards and to keep records in such a way that enables preparation of financial statements and allows precise audits and reviews of financial statements. SOEs are also required to prepare quarterly and annual reports on operations, financial statements including a balance sheet, profit and loss statement, and related statements that present a true and fair view of their financial status. For the annual report, independently audited financial statements are also required.

4.73 Second, the previous section has identified new institutional needs, in particular to provide (i) a point of contact for donors and investors on overall sector strategies through a technical steering committee, (ii) overarching strategic planning, improved budget formulation, and direct supervision of department heads and senior staff, and (iii) sound accounting practices that record transactions and produce audited financial statements.

4.74 A Program Management Unit (PMU) is needed to manage MMI and its proposed change from a vertically integrated extractive industry conglomerate or "production ministry" to a policy-making

[11] This schematic description is based on the experience with PRR reforms in other ministries as well as draft laws, such as the Public Finance and Expenditure Management Law and the Civil Service Law. Hence, this description cannot yet be considered as Government's policy.

government regulatory agency. Program management capacity needs to reach across the entire ministry in order to facilitate change functions and implement a completely revised corporate culture. These dramatic but necessary changes will require significant support to MMI: a critical mass of skilled talent, working as a team, is vital to ensuring the transition at MMI. The current cadre of MMI staff do not include Afghan professionals with sufficient vision, market understanding, or imagination to facilitate the Ministry's transition to becoming a 21st century regulatory agency that facilitates the role of the private sector in minerals and industrial development. MMI envisions a cadre of professionals working in the PMU under the overall guidance of the Minister to bring into existence the "new" regulatory and facilitative MMI, while at the same time helping to dismantle the "old" MMI.

4.75 MMI has the authority to assess royalties on resource production. A factor cost of production, royalties are insensitive to changing economic conditions, and high royalties dissuade investment and sterilize lower quality resources. Today effective royalty regimes have low fixed rates that are published with the minerals law. MMI's newly passed Minerals Law had the royalty schedule removed during the Ministry of Justice's review, citing a government preference to negotiate rates on a project-by-project basis. Since MMI has no capacity for this, it is more likely to lead to unsatisfactory results for the Government. Furthermore, in order to attract grass-roots metals exploration, investors will need to know up-front the royalty rate. An investor is not in a favorable position if required to negotiate after a significant discovery. To correct this problem, royalties could be published in the Regulations.

E. Next Steps

4.76 The overall objective of MMI reform is for the Ministry to play primarily a regulatory role, and in the interim take steps to make SOEs commercially viable and prepare them for eventual privatization. Table 4.8 outlines key steps toward this objective.

Table 4. 8: Main Recommendations

Meeting Overall Objectives, by wrapping key action items described to the right into a comprehensive strategic program	Scoping MMI needs in terms of (i) fiscal, regulatory, and institutional frameworks to make Afghanistan globally competitive; and (ii) direct on-the-ground technical assistance to enterprises. Based on the scoping analysis, the following tasks are likely: • Create an overarching sector strategy for the development of hydrocarbon and mineral resources, so that Afghanistan can realize its full mineral wealth potential. • Define additional fiscal, legal, and institutional reforms that may be needed, and corresponding policies - in particular, publish royalties as part of the regulations for the Minerals Law. • Define an implementation plan for the overarching sector strategy. • Define key strategic investment decisions that need to be taken by MMI and the private sector. For MMI investment decisions, define priorities, required actions, and estimated costs across the interim and longer term. • Define an interim and longer-term strategy for SOEs – principally coal and cement • Create a financial management framework including key offices, job descriptions, and accountability frameworks.
Next Steps	• MMI to develop its Vision/Next Steps. • Identify funding needs to get the process going, including advisors, implementation unit, etc. • Develop a sector-wide action plan and attract external assistance to finance it. • Establish an inter-ministerial working group for Aynak Tender (stages 1 and 2). • Define through further engineering analysis strategic investments to reduce coal mining costs. • Establish an inter-ministerial gas working group to formulate reforms needed to stimulate commercial gas development, and to set gas pricing principles and formulas.

CHAPTER 5. HIGHWAY SECTOR

Executive Summary

i. The highway sector, and more broadly the road sector as a whole, plays a critical role in Afghanistan's development strategy. It is an essential enabler of economic growth, supporting trade, other economic interactions, and access to domestic and regional markets. Moreover, construction and maintenance of highways can encourage business development in the construction industry and construction materials industry. Highways and roads promote national integration and help ensure that the Government in Kabul can reach out to provinces, and also provide the population served with better access to various services and increase people's mobility; hence they are greatly valued by Afghans.

ii. For all of these reasons, the Government and donors decided to prioritize highway reconstruction for funding and rapid implementation. Other than the enormous spending on building up Afghanistan's security forces, the road sector has been the biggest recipient of international assistance. The Government encouraged donors to invest in reconstruction of the core national highway network, and donors responded, funding different segments with relatively good coordination for the most part. Gaps in the main network have been progressively filled over time, and the investment program for the Ring Road and key connections to neighboring countries is basically fully funded, with most of it under implementation. While implementation has not been as rapid as either the Government or donors originally hoped, good progress has been made on many projects.

iii. Many difficulties have been encountered, however, including among others security problems and associated delays and costs; other factors pushing up costs; Government capacity limitations; lack of financing for maintenance, etc. The main findings and recommendations in this Chapter are as follows.

iv. ***First, maintaining the reconstructed and new highways is a top priority.*** Without due consideration for maintenance requirements, the sizable investments that have been made in the highway sector will not fully achieve their expected economic impact. In terms of financing, this challenge requires careful prioritization within the highway sector as between maintenance and new road construction – greater benefits often are associated with maintaining an existing road than with starting a new investment. Beyond effective prioritization, additional resources will need to be identified for highway maintenance. While it is not recommended at this stage of Afghanistan's development to earmark specific revenues for this purpose, developing highway-related revenues (most notably tolls) will both increase Afghanistan's revenues and pass part of the cost of maintenance to the users. And finally, the modalities for maintenance need to be well implemented, with an emphasis on use of the private sector.

v. ***Second, it is recommended to take a very cautious approach to large new highway projects.*** Given the reconstruction of the core national highway network that is underway and the enormous need for public investment in other infrastructure sectors, it is doubtful whether large investments in new highways are of the highest priority for the Government and its partners at this stage. Moreover, some new investments – especially new highways to be constructed at high (and expensive) technical standards – might not be worth initiating on account of relatively low traffic forecasts and unaffordable maintenance costs.

vi. ***Third, the fragmented implementation pattern dominated by donor-executed projects has been reasonably successful but has had drawbacks.*** The approach taken allowed projects to start up quickly, ensured that donors focused on and were in some sense accountable for specific projects, "allocated" the different projects across donors so that all priority projects were eventually covered, and minimized the

burden on initially very weak capacity in MPW. There has been basic coordination on standards, and coordination of investments was facilitated by the obvious need to reconstruct and complete the "Ring Road". However, the disadvantages of this approach are increasingly evident – in terms of high and varying costs, lack of Government leadership and ownership, reliance on temporary external capacity rather than building sustainable core government capacity, possibly making it more difficult for the Afghan contracting industry to develop, etc. Moreover, this kind of approach made more sense in an "emergency" mode of reconstructing an existing network of highways than it will for a future program of new investments that will need to be cohesive, very carefully prioritized, limited, and cost-controlled in view of resource constraints. And maintenance, the top priority for the future, is best not managed in an institutionally fragmented manner. As "lumpy" investments, major road projects are more conducive to projectized funding, as opposed to sector/program funding, than is the case in many other sectors. But Government-led prioritization and oversight, along with more harmonized approaches across donors, would yield substantial benefits in the future.

vii. ***This in turn raises the issue of developing the capacity of the Ministry of Public Works.*** Capacity constraints in this ministry have not been very well-addressed by fragmented TA and ad-hoc structures created by donors to assist with their projects (e.g. Project Implementation Units, PIUs). As in other ministries, such approaches have not been greatly helpful in building sustainable core Government capacity. The Ministry should focus on its core functions, and substantial, permanent involvement by MPW or other public entities directly in road maintenance or construction should be discouraged.

viii. ***Finally, strong emphasis on value for money is required in the highway sector.*** There have been large variations in the unit (per-kilometer) costs of different highway reconstruction projects. Such differences would appear to be to a considerable extent explained by objective factors (e.g. the state of the road being rehabilitated), and by factors beyond the control of the Government, donors, or implementing entities (e.g. changes in the security situation). However, part of the variation in costs may be due to controllable factors (e.g. contract design, procurement process, cost of materials from different sources), and hence need to be looked into further, with a view to taking remedial actions in order to contain future costs.

A. The Road Sector and Highway Investment Program

5.1 Following the end of major combat in Afghanistan in late 2001, rebuilding Afghanistan's highway network was assigned top priority among infrastructure investments by both the Government of Afghanistan and international partners. A large road reconstruction investment program with a total cost of more than US$1 billion has been initiated. Considerable progress has been achieved, but there have also been significant problems and constraints. Experience in the highway sector provides valuable lessons for future road and other infrastructure investment programs in Afghanistan. There are also critical issues related to institutional capacity, financial management, maintenance, and fiscal sustainability in the highway sector. These aspects will determine whether the substantial investments made so far, as well as any future highway investments will fully reap their intended benefits and will be properly maintained so that they continue to provide such benefits to the Afghan people and economy.

5.2 This chapter first provides some historical background on the highway sector, its importance for Afghanistan's economy and development, the institutional structure for managing highways, and the condition of the highway system at the start of post-conflict reconstruction. The second section describes Afghanistan's highway investment program and discusses financing arrangements, and also looks at future priorities. The next section reviews the experience with implementation and associated issues and problems, including road standards, contract design and procurement, security arrangements, and costs and "value for money". Maintenance issues and fiscal sustainability in the highway sector are then discussed. The final section presents some conclusions and recommendations.

HISTORICAL BACKGROUND

5.3 Prior to the war, Afghanistan had a small but high-quality modern national highway network, built with foreign assistance primarily from the USSR and USA, which linked key cities and a couple of the main border crossings. Consisting entirely of well-paved single carriage way two-lane roads, this network sharply reduced travel times and opened up communications and markets across the country. Of particular importance was the main north-south highway going through the Salang Tunnel, which helped provide a much greater degree of integration between northern and southern markets. The Kabul-Kandahar-Herat highway similarly provided much faster and lower-cost transportation on the East-West axis. Travel times were unprecedentedly fast (in relation to Afghanistan's previous history) on these routes.[1] There were also good road connections to four border points: two with Pakistan (Torkham and Chaman), one with Iran (Islam Qala), and one with the former USSR, now Uzbekistan (Khairatan).

5.4 However, there were important gaps in the highway system, and most of the country was not served by major roads providing access to the highway network, or even functional tertiary and rural roads, and off the few main highways vehicle speeds were very slow and travel times long. Afghanistan's harsh topography and climate meant that many parts of the country remained cut off during the winter, and snow, spring floods, and landslides etc. made secondary and tertiary roads impassable at times.

5.5 During the long period of conflict, a combination of destruction (e.g. of bridges), heavy military use, climatic conditions, and most important lack of maintenance resulted in severe deterioration of the highway network. Much of it became unusable, with vehicles often driving on dirt tracks alongside the original road. Damage to bridges and tunnels caused bottlenecks to the movement of people and goods. Travel times and vehicle operating costs sharply increased, in some cases going back to levels approaching those before the highways were built. This resulted in lack of efficient transport between

[1] For example, it was possible in the 1970s for a passenger vehicle to travel between Kabul and Herat, nearly the length of the country on the East-West Axis, within a day, and Mazar-i-Sharif and other northern cities were easily reachable from Kabul in a day, as were Pakistani cities on the other side of the border to the East.

Kabul and regional centers, hampering national integration. Paradoxically, however, rudimentary but usable vehicle tracks in some remote parts of the country had to be developed for military purposes during the conflict and also were subsequently used for delivery of humanitarian aid. So there ended up being somewhat better access, albeit on a limited and seasonal basis, in certain remote areas which had not been served by roads connecting them to the prewar highway system. However, the sustainability of these remote routes is doubtful. Experience during the conflict demonstrated the importance of roads being kept open to stabilize market prices in remote parts of the country (e.g. Badakhshan), and part of the limited international assistance to Afghanistan during the 1990s was devoted to such efforts.

5.6 In sum, the long period of conflict had a devastating impact on road infrastructure in Afghanistan, due to three effects: (i) the existing highway network was very heavily damaged as a result of military action and military use, lack of maintenance, and harsh climatic conditions; (ii) new highways, whether to fill gaps in the pre-war system or to open up access to large swathes of the country, simply were not built during the conflict; and (iii) Afghanistan missed out on the massive construction of tertiary and farm-to-market roads which occurred in many other countries and became an integral part of the development agenda during this period, in recognition of the high economic and social returns of such roads. As a result, the legacy of the conflict was a huge backlog of highway rehabilitation requirements, obvious needs for additional highways to fill gaps and help cement together the country, and large needs for smaller local roads. There was enormous demand to address this backlog in a short period of time.

AFGHANISTAN'S ROAD NETWORK

5.7 As can be seen from Table 5.1, Afghanistan has a total road network of nearly 35,000 km, the vast bulk of which (roughly 27,000 km) are provincial and rural roads often of very low standards of quality and usability (graveled or earthen). The core regional highways have a total length of 3,242 km, consisting mainly of the 2,300 km "Ring Road" (Kabul-Mazar-e-Sharif-Sheberghan-Maymana-Herat-Kandahar-Kabul. This includes a long section between Herat and Andhoy in the northwest that was not constructed in the first place as well as major links to neighboring countries totaling about 900 km. The physical condition of the national highway network (totaling about 5,000 km) varies but in general was not good at the time when major combat ended in late 2001. Only 26% remained in fair condition, 54% were in poor condition, and large sections had deteriorated to unpaved status.

Table 5. 1: Road Classifications and Lengths

Road Classification	Length, km
Regional Highway	3,242
National Highway	4,884
Provincial Road	9,656
Subtotal	17,782
Rural Road (estimate)	17,000
Total	34,782

Urban Roads are excluded.
Source: MPW (2005).

5.8 A set of new Interim Road and Highway Standards has been developed, which are being reviewed by the Ministry of Public Works and are expected to be adopted by the Government. The functional road classifications proposed in the Interim Standards are defined as follows (see also Table 5.1):

- ***Regional Highways*** are the existing national primary highways, also termed "Super Corridors", and there are proposals to expand these roads to four lanes, which is expected to foster regional trade and economic linkages between Afghanistan and neighboring countries.

- ***National Highways*** (currently national secondary highways) are intended to promote internal trade and economic linkages and extend Regional Highways to provincial capitals, contributing to peace, security, stability, economic growth, and national integration.
- ***Provincial Roads*** improve the administrative, trade, and economic connections between district headquarters and respective provincial capitals, and between important district headquarters.
- ***Rural Roads*** bring the hinterland into contact with markets and local administration.

5.9 The technical road classifications proposed in the Interim Standards are defined as follows:

- ***Expressways-Type I:*** Four lane paved roads with two lanes in each direction; lanes are 3.5 meters wide and the total roadway width is 24 meters. Exterior shoulders are three meters wide and interior shoulders are two meters wide including median barrier. Expressways are designed for higher speeds and can accommodate heavy traffic volume between 13,000 and 30,000 passenger car units as average annual daily traffic (ADT).
- ***Expressways-Type II:*** Four or more lanes, paved roads. They have two or more lanes in each direction of traffic with a median separating the opposing lanes of traffic; lanes are 3.5 meters wide. Divided highways have access control (e.g. entrance and exit ramps) and are designed for higher speeds and can accommodate traffic in excess of 30,000 ADT.
- ***Major Roads:*** Two lane paved roads with a seven meter wide carriageway and 1.5 meter wide shoulders. Major Roads are designed for average traffic volume up to 13,000 ADT.
- ***Minor Roads:*** Two lane gravel roads with a six meter wide carriageway and 1.5 meter wide shoulders, where possible. Minor Roads have low average daily traffic of below 5,000 ADT. Their surfaces are compacted gravel or a similar material.
- ***Non-Standard Roads:*** Small roads and trails that are not significant enough to require engineering design or standardization. They typically have very low ADT and have gravel or dirt surfaces. Non-Standard Roads are not discussed in this chapter.

5.10 The final draft of Master Plan is also recommending establishment of an additional road class based on the AASHTO (American Association of State Highway and Transportation Officials) design guidelines for low-volume roads, which specify a gravel roadway width (carriageway plus shoulders) of 6.0m for design speeds up to about 60 km/h depending on type of traffic.

ECONOMIC SIGNIFICANCE

5.11 Infrastructure in general, and roads in particular, are essential for achieving sustained economic growth, and for political and social progress based on national integration (see Afghanistan Government, 2004, p. 39). More specifically, infrastructure like roads contributes directly to economic growth, provides critical basic access to services to the people, promotes national integration, and serves as a highly visible index of government performance. All of these contributions are of particular importance in the case of the road sector in Afghanistan – where there is no rail transport; opportunities for water transport are minimal; and low income levels, low population densities, and in many areas topography limit the ability to use air transport extensively for domestic travel.

5.12 From the perspective of the wider Central Asia region surrounding Afghanistan, roads are the primary transport linkage with neighboring countries. Potential for transit trade through Afghanistan, as well as more generally opportunities for greater regional economic integration through trade and transit, depends on the highway network and its quality, among other factors.

5.13 While major highways encourage long-distance trade and integration of regional and national markets, smaller tertiary and farm-to-market roads which link localities and villages can play a very

important role in enhancing local access to markets and services and spurring local economic development. Roads are also a major factor increasing access to social services. Although this chapter does not cover in any detail the programs supporting maintenance and construction of secondary, tertiary, and farm-to-market roads, the economic returns and development impact of such roads can be very high (including in terms of access to schools and health facilities). Municipal roads, also not covered in this chapter, are very important for the economic functionality of cities and towns, and for the quality of life.

5.14 In sum, roads are Afghanistan's principal means of transport for domestic and international traffic and therefore of great economic importance for the country as well as the region. This chapter focuses on the highway sector, but the importance of rural roads and municipal roads must be acknowledged, and appropriate strategies and programs put in place for these components of the road system.

ROLE OF THE GOVERNMENT IN THE SECTOR

5.15 Economic analysis can fully justify the role of the Government in the highway sector, in particular with respect to financing the large capital investments required. Indeed, given their lumpiness, the associated financial risks, the long-term time horizon for fully reaping the benefits of highways, the externalities associated with these benefits, and often network monopolies at the route level,[2] public intervention is justified to finance investments that would otherwise not be forthcoming from the private sector at appropriate levels. The role of the Government in financing maintenance of highways is less clear, however. In particular, there is a strong case for introduction of partial or full cost recovery for maintenance from users (see Volume I, chapter 8 for a discussion on cost recovery in general).

5.16 Whereas the case for public financing of investment in the highway sector is strong, as discussed below there is much less justification for direct public sector provision of services in the sector, either construction or maintenance. These activities should be handled primarily if not entirely by the private sector, implying that the public sector needs to focus on its essential roles of regulation, contracting, planning, monitoring, and financing (including through cost recovery).

EVOLUTION OF SECTOR STRATEGY

5.17 In March 2002, a Transport Sector Review (TSR) was proposed by a Joint ADB/World Bank/donor mission and later carried out with funding from the Swedish International Development Cooperation Agency (Sida). The purpose of the TSR was to prepare an overall vision and development strategy for the transport sector (covering aviation, roads, and road transport), consistent with the policies and development framework of the Government. The Policy Statement of the TSR can be seen as a proposal for an indicative transport policy for Afghanistan. It has a time perspective of 10 to 15 years and focuses on policy, and institutional, and capacity building issues in the three main sectors.

5.18 *Securing Afghanistan's Future* (SAF – Afghanistan Government, 2004), which was prepared by the Government with assistance from international partners, stated that the road development goal is to rehabilitate and improve the road network and strengthen domestic linkages between the capital, all major cities, major commercial, industrial production, and mining centers, and provincial and district headquarters. Such linkages will achieve full connectivity of the road network, enhance national integration, and strengthen international linkages with neighboring countries, thereby facilitating economic development and reducing poverty by improving access to markets and services.

[2] It rarely makes sense to build two significant roads along the same route, although such examples are not unknown.

5.19 The SAF report also re-emphasized policy recommendations made in the Transport Sector Review. Recommendations pertinent to road infrastructure development included: (i) private sector participation in construction and maintenance works; (ii) a modern asset management system, including toll collection; (iii) cross-border trade, and (iv) addressing cross-cutting issues, including environment, gender, capacity building, traffic safety, and regulation for promoting competition. A final draft Master Plan for the highway sector has been prepared with assistance from ADB.

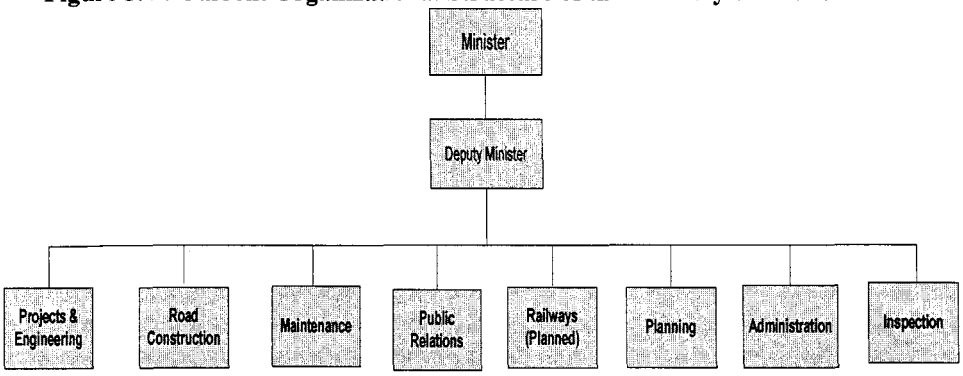
5.20 The Government is currently preparing an Interim Afghanistan National Development Strategy (I-ANDS), which is expected to give prominence to infrastructure in general and to the road sector in particular, as an important contributor to economic growth and national integration.

INSTITUTIONAL STRUCTURE FOR MANAGEMENT OF HIGHWAYS

5.21 The Ministry of Public Works (MPW) is responsible for construction and maintenance of national and provincial road networks (see Figure 5.1 for summary schematic diagram of MPW's organizational structure). However, MPW currently has neither the institutional capacity nor the financial resources to undertake even routine maintenance of the national road network. The Ministry of Rural Rehabilitation and Development (MRRD) is responsible for small-scale rural infrastructure, including rural roads, and there are a number of ongoing projects for maintenance and rehabilitation of such roads.

5.22 MPW currently has about 2,200 staff, and its mandate covers the following activities: (i) road infrastructure planning; (ii) road construction and maintenance; (iii) road tolls collection (discontinued in 2002, see section on financing); (iv) survey and design; (v) maintenance of MPW's own vehicles and equipment; (vi) airport design and construction (but not operation of airports); (vii) inland waterways terminals; and (viii) railways. However, many of these functions are not being carried out at present.

Figure 5. 1: Current Organizational Structure of the Ministry of Public Works



Source: Ministry of Public Works. Note: Aviation is not included, and the provincial departments are not shown.

5.23 MPW was in the past responsible for virtually all Government construction and maintenance, using its own staff, labor force, and equipment (i.e. force account). This included roads and bridges, airports, public housing, water, etc. All aspects of planning, design, construction, and maintenance were carried out in-house through a number of MPW construction units. MPW was traditionally responsible for construction and maintenance of national and provincial road networks in the country. In addition, MPW had a multitude of other responsibilities such as construction of airports, housing, water supply, city planning, and collection of road tolls. MPW was also involved in maintenance of the airport pavements and managing several state-owned construction units for housing, roads, and airports (see Volume III, Chapter 4).

5.24 However, MPW lost nearly all of its resources for road construction and maintenance during the long period of conflict, and what was left was outdated and difficult to keep operating due to lack of spare parts. Many of its staff, including skilled plant operators and drivers, moved to neighboring countries and elsewhere (in the private sector), and most of them never came back. The loss of good plant operators, drivers, and skilled workers was very damaging to MPW, and moreover that fact that no new work was carried out due to the conflict resulted in the remaining work force finding it difficult to undertake even simple maintenance tasks effectively, such as resurfacing of roads and snow removal operations.

DONOR RESPONSE AND COORDINATION

5.25 A number of donors are involved in providing financial support for highway investments. USAID is the largest donor, followed by the Asian Development Bank, the World Bank, and the European Commission. Other donors include Saudi Arabia, Iran, Japan, Italy, Sweden, Kuwait, and Pakistan. A number of donors provide financial assistance for smaller roads, including funding channeled through the Afghanistan Reconstruction Trust Fund (ARTF). Some donors are providing technical assistance (TA) in the form of project feasibility studies, engineering design and construction supervision services and training.

5.26 More specifically, in addition to assistance from Afghanistan Reconstruction and Development Services (ARDS) for planning and implementation of projects, MPW is currently being provided with technical assistance for sector planning, project management, and capacity building, including:

- One Road policy advisor at MPW (one year) for capacity building of MPW, provision of policy advice, and support of the Consultative Group for the Transportation Sector (CG-TS) and Working Group activities, financed by Japan International Cooperation Agency (JICA).
- TA for mid-level engineers at MPW with reconstruction and provision of basic equipment at Kabul Machinery Center(planned), financed by JICA.
- Various training courses in Japan and Malaysia for road construction management, civil engineering, road policy management etc, financed by JICA.
- Two advisors financed by ADB (mainly for financial and contract management related to investment projects).
- Advisors financed by ADB for developing the capacity for road database management and quality control of road works, and operation of a materials testing laboratory (also involves Kabul Polytechnic University and engineers working for local construction firms).
- Additional advisors for specific projects, provided by the donor financing the project concerned.
- A team preparing a road master plan (mainly financed by ADB).

5.27 In view of the lack of capacity in MPW as well as elsewhere in Government, donors have exhibited a tendency to establish ad-hoc structures to oversee and assist with the projects they financed, usually referred to as Project Implementation Units (PIUs), to help ensure timely and effective implementation. In addition, there are numerous foreign experts working in MPW under various arrangements. "Enclave" PIUs, which are not an organic part of a Ministry and don't have sustainable institutional capacity building as a core objective, raise serious concerns. PIUs established by donors primarily to ensure proper implementation of "their" projects do not support genuine institutional capacity building and may well undermine accountability of and within ministries for the progress of projects. Staff in PIUs may see themselves as working more for the donor paying for their salaries and not so much responsible or accountable to the Ministry. More generally, uncoordinated and fragmented technical assistance (TA) in ministries like MPW can work at cross-purposes, undermine national ownership, and inhibit learning by doing.

5.28 These shortcomings suggest that not having a PIU may be the best way to help build capacity and ensure Government program leadership,[3] although this requires a critical mass of capacity and support within the Ministry structure. Any PIU, if created, should be an integral part of the Ministry, report to Ministry leadership, and focus on capacity building. In addition there should be only one such unit per ministry, responsible for supporting implementation of the entire program of the ministry rather than focused on the projects of a single donor. Hence such units are better termed Program Management Units (PMUs) and need to be integrated within the Ministry concerned.

5.29 With a large and variegated group of donors, most of them directly executing projects, coordination among the donors and with the Government is extremely important in the highway sector. This is the responsibility of CG-TS, which is chaired by MPW with ADB and JICA as the focal points for sector issues. The aim of the CG-TS is to increase the effectiveness of aid coordination in support of national development objectives. Monthly CG-TS meetings are conducted, and a secretariat has been provided by USAID and the US Army Corps of Engineers. Six "Working Groups" have been formed to address particular subjects and/or issues. However, coordination is not without challenges. The CG-TS has been active but is not necessarily well-linked to MPW's work, and MPW does not take active leadership. More generally, donors still do not have a common agenda and well-developed process for collaboration, with frequent donor staffing changes hindering mutual learning and knowledge building. All this is hampering the reform process and capacity building in MPW.

5.30 To address the need for capacity building in MPW, recently MPW and donors agreed on TA support for administrative reform and capacity building in MPW. This TA will be financed by a grant from the World Bank under its ongoing highways project and will be co-financed by Sida. The TA will assist MPW to develop, manage, and implement a multi-donor supported and funded program for (i) administrative reform and capacity building in MPW, and (ii) capacity building of the private contracting sector for, in particular, road maintenance and minor construction works. The TA will also provide, as and when required, support on an ongoing basis to MPW for the implementation of capital investment projects.4 The TA will provide lead assistance to MPW for developing, managing, and implementing a program for administrative reform and capacity building in line with the public administration reform strategy of the Government. The program will also include the strategy and framework for capacity building of the private contracting sector in Afghanistan. It is expected that this program will lead to and serve as a framework for other technical assistance projects for reforming and building the capacity of MPW and developing the private contracting sector. The primary objective of this program is to create a modern ministry responsible for developing and managing Afghanistan's transport infrastructure, including roads, railways, and waterways[5]. This will include policy making, planning, establishment and enforcement of standards, construction, and operation and maintenance, as well as building adequate institutional and human capacity for performing these functions. A secondary objective is to contribute to the development of a capable contracting industry for transport infrastructure works. The modernized MPW will, to the maximum extent practicable, perform its functions by way of service contracts with the private sector. Under this TA a management firm will be initially contracted for three years.

[3] For example, the Emergency Transport Rehabilitation Project, financed by the World Bank, was implemented without a PIU. It successfully disbursed nearly all project funds and completed all works after two and a half years, within the planned completion target for the project. However, lack of capacity in MPW did hinder project implementation in various respects.

[4] It is assumed that some of the support referred to in Section 5 may come to an end. The Consultant will then provide similar required services, as set out in the Scope of Work.

[5] MPW is also responsible for the planning and construction of airports and airfields. The Transport Sector Review, a (provisional) policy document for the transport sector, recommended that these functions be transferred to the Ministry of Transport, which today is responsible for the operations and management of airports/airfields.

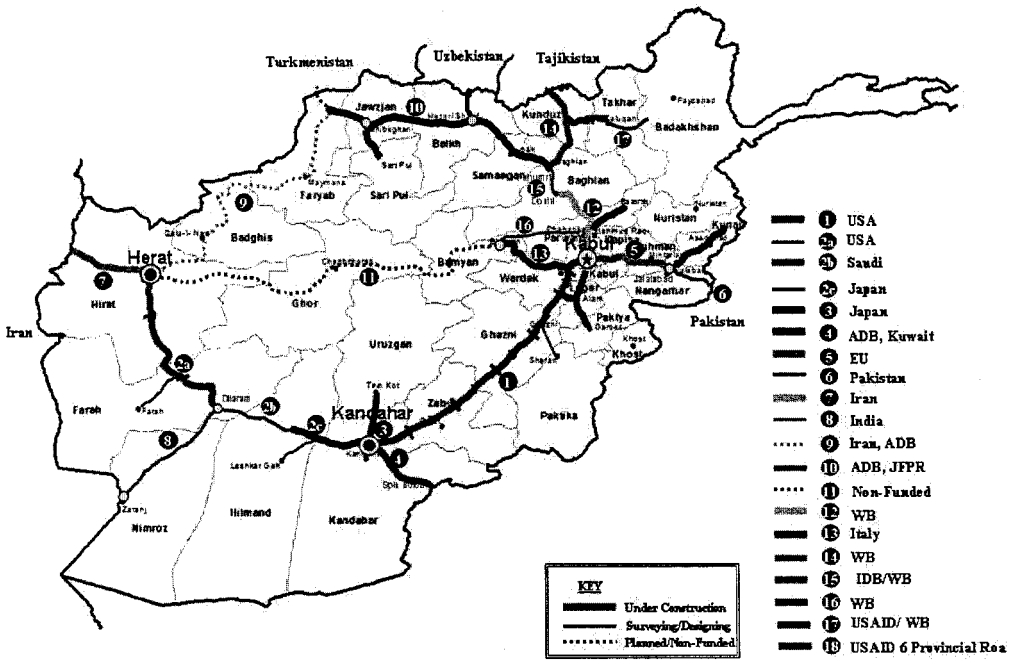
B. The Highway Rehabilitation Investment Program

SIZE AND SHAPE

5.31 The current transport sector development program is contained in the National Transport Programme, Public Investment Programme (PIP), National Development Budget SY1384-1387 (2005/06-2007/08). In the road infrastructure sub-program, there are currently 24 road construction projects with and committed funding from various donors totaling some US$1.1 billion (not counting technical assistance projects). This program targets rehabilitation of approximately 4,700 km of regional, national, and provincial highways.

5.32 The heart of the program is reconstruction of the 3,242 km of "Regional Highways" – mainly the Ring Road as well as some connections from the Ring Road to other cities and border points – executed through 18 projects with an estimated cost of over $1.1 billion. The spatial dimensions of this program as it emerged are shown in Figure 5.2, a map which illustrates the importance of this investment program for both road communications within Afghanistan and the crucial links with neighboring countries. It should be noted that the northwest quadrant of the "Ring Road" network, which was never constructed in the first place in the pre-war period, is included in the highway reconstruction program.

Figure 5. 2: Highway Reconstruction Projects in Afghanistan



Source: Consultative Group for the Highway Sector.

5.33 A list of the segments and projects that comprise the highway network (broadly corresponding to those shown in Figure 5.2), along with brief comments about their current status (as of October-November 2005), is presented in Table 5.2. The projects are at varying stages of progress, with some having already been completed, others currently underway, and some still at the planning or initiation stage.

Table 5. 2: (ırrent Develop ent Program for Regional Highways

Road Section	Length	Committed Funds/Contract Price, $ million	Description
Kabul-Kandahar	483	$237 US $29 Japan	Originally with asphalt concrete pavement. Rehabilitation/ reconstruction work has been completed with assistance from United States (389 km) and Japan (53 km).
Kandahar-Gereshk-Dilaram-Herat	564	$84 Japan $45 Saudi $140 US	Cement concrete pavement severely damaged. Rehabilitation work started for Kandahar-Gereshk section (114 km) with Japan assistance but stopped due to security reasons. Gereshk-Delaram section (115 km) with Saudi Arabia-US assistance not yet started. Dilaram-Herat section (326 km) started with US assistance
Herat-Bala Murghab	203	$30 Iran NA Saudi	Gravel/earthen road. Includes the Sabzak Pass (2,500 m elevation). Requires substantial improvement including realignment and provision of bridges/culverts to allow smooth passage of cargo vehicles. Iran has completed first section (60 km) to Armalik. The remaining section will be funded by Saudi Arabia
Bala Murghab-Qaysar	100	$55	Gravel/earthen road requiring substantial improvement. Bid documents are under preparation. Funded by ADB.
Qaysar-Andkhoy	250	$80	Gravel/earthen road with embankment and bridges/culverts provided. Funded by ADB.
Andkhoy-Mazar e Sharif	447	90	Except the first 22 km from Andkhoy, retains asphalt concrete pavement. Rehabilitation is under way with ADB/Japan assistance.
Mazar e Sharif-Puli Khumri			Retains asphalt concrete pavement and is relatively in good condition. Rehabilitation is under way with ADB-Japan assistance.
Puli Khumri-Kabul	219	80	Puli Khumri-Doshi section (47 km) is in relatively good condition and to be further improved with IDB assistance. Work on Doshi-Kabul section (172 km) has been completed with World Bank assistance. Rehabilitation of the Salang Tunnel (2.7 km at 3,363 m above sea level) has been completed with World Bank assistance.
Kabul-Torkham (border of Pakistan)	224	Eur 35/28 EU Eur 35/30 EU Pakistan n/a/	Reconstruction of Kabul-Jalalabad section (150 km) underway with assistance from the European Commission. Reconstruction of Jalalabad-Torkham section (74 km) underway with assistance from Pakistan. A new bypass is under consideration to augment the capacity of this section
Kandahar-Spin Boldak (border of Pakistan)	104	225	Rehabilitation work completed with assistance from Japan/ADB and Kuwait. Project rehabilitated/reconstructed about 50% of this road.
Dilaram-Zaranj	223	$84	Reconstruction started with assistance of India.
Zaranj-Milak (border of Iran)	11	$5	A 320 m bridge across the border completed with assistance of Iran. Approach roads to the border are being improved by Iran.
Herat-Islam Qala (border of Iran)	124	$50	Upgrading to a 7.3 m carriageway asphalt surface road has been completed with assistance from Iran
Herat-Torghandi (border of Turkmenis.)	119	None	Dirt road. Planned to be improved with external assistance.
Anderkoy-Aqina (border of Turkmenis.)	37	None	Retains asphalt concrete pavement and is in relatively good condition Rehabilitation is underway with ADB-Japan assistance.
Naibabad-Hayratan (border of Uzbekistan)	57	Included in Mazar to Puli Khumri	Construction/rehabilitation underway with World Bank assistance. To be completed by December 2005
Puli Khumri-Sher Khan Bandar & Kunduz-Taluqan	232	$30	The project is ongoing with the assistance from the World Bank, and is expected to be completed by the end of 2005.
Nizhni Pyanzh (Tajikistan)-Sher Khan Bandar		NA	Contract for construction of a new 670 m long two-traffic lane bridge over the Pyanzh river bordering Afghanistan and Tajikistan has been awarded, with US assistance.
Total	**3399**	**Approximately $1,100 excluding data n/a**	

Source: MPW (2005, pp. 9-10).

5.34 Also forming part of the current investment program are some additional national and major provincial highways not shown in the above table (see Table 5.3). There are numerous secondary,

tertiary, and farm-to-market roads as well, for which repairs, rehabilitation, and new construction are being carried out under a wide variety of programs, including cash-for-work programs notably the National Emergency Employment Program for Rural Access (NEEPRA), which is now being replaced by its successor, the National Rural Access Program (NRAP). These smaller roads are not analyzed in this paper, although their economic importance must be recognized.

Table 5. 3: Current Development Program for National and Some Key Provincial Highways

Road Section	Length km	Committed Funds/Contract Price, $ millions	Description
Maidan Shar-Bamyan	140	Eur 36	Full rehabilitation with assistance from Italy will cover initial 54 km. For the remaining section, only special maintenance is financed. Italian grant covers feasibility study and detailed design of entire road.
Jalalabad-Asmar	124	$25.44	Reconstruction/improvement under USAID
Kabul-Gardez	125	$28.94	
Pul e Alam Ring Road	35	$6.14	
Ghazni-Sharan	52	$14.64	
Kandahar-Tirin Kot	148	$22.14	
Gereshk-Lashkergarh	43	$13.14	
Farah Rod-Farah	71	$21.14	
Sheberghan-Sari Pul	45	$15.54	
Gulbahar-Panjshir	72	$22.54	
Taluqan-Faizabad	173	$25 WB , $46m USAID	Rehabilitation and reconstruction with assistance from WB (Taluqan-Keshim) and USAID (Keshim-Faizabad).
Charikar-Bamian Road	140	$5m	Repair and construction of structures (retaining walls, culverts, wash, etc), widening of road, subgrade preparation, placement of 15 cm of gravel base wearing course, installation of new side drains and cleaning of existing ones with World Bank assistance.
Subtotal	1,164		
NEEPRA	2000	$39.2	Funded by World Bank and other donors and implemented by UNOPS

Source: MPW (2005, p. 10).

5.35 Estimates of the length of roads of different types included in current investment projects and those at an advanced stage of planning are shown in Table 5.4. As can be seen from the table, the coverage of the regional highway system is almost complete except a section of 161 km., while that of the second-tier national highways and provincial roads under the responsibility of MPW is very partial. Information about coverage of other provincial and rural roads is not very precise, but it is clear from the various programs that are involved in this area that substantial activities are occurring.

Table 5. 4: Lengths of Roads included in Current Projects

Road Classification Under Interim Road and Highway Standards	Total Length Km	Length in Current Projects Km
Regional Highways (MPW)	3,242	3217
National Highways (MPW)	4,884	1,164
Provincial Roads (still under MPW)	9,656	500-1000
Rural Roads (under MRRD)	17,000	2,000
Total	**34,782**	**NA**

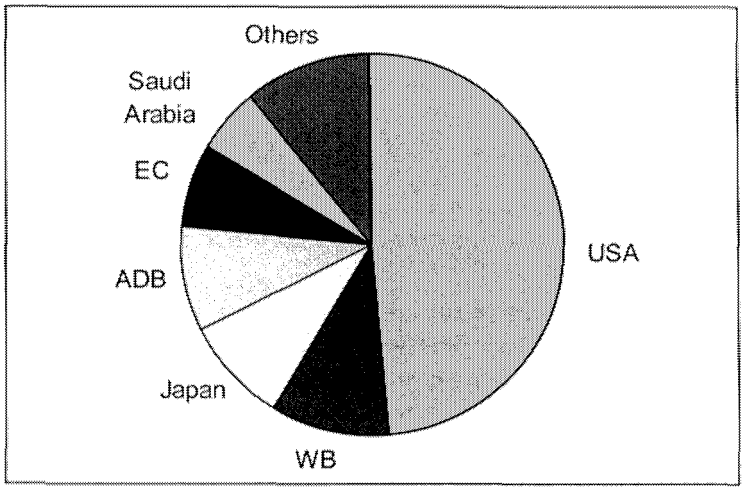
Source: MPW (2005).

5.36 In summary, this is a comprehensive program to reconstruct, where necessary complete, and in places extend Afghanistan's existing national highway network, which comprises the essential artery for long-distance surface transportation within Afghanistan, as well as road links with neighboring countries. The Government and donors have come together to fund and implement this program, and gaps in the coverage of projects to reconstruct the national highway network have progressively been filled, although work has not yet started on completing the northwest quadrant of the "Ring Road" (donors have come forward to provide this funding, however). While it will take several more years to complete this program, reasonable progress has been achieved in many respects so far. The programs for rural roads, especially the tertiary and farm-to-market roads, consist of a more disparate set of activities with different and sometimes multiple objectives, such as food-for-work, cash-for-work, village development, etc. The rest of this paper focuses on the core national highways ("regional highways") investment program, which is only part of the budget responsibility of MPW but accounts for a very high proportion of the total cost and comprises relatively large projects, from which some lessons can be drawn for other large infrastructure investments in the future.[6]

FUNDING ARRANGEMENTS

5.37 As indicated earlier, a number of donors are providing financial support to the highway reconstruction investment program. As can be seen from Figure 5.3, the USA is by far the single largest donor, accounting for close to half of the financial cost. Other sizable donors include the World Bank, Japan, Asian Development Bank, European Commission, and Saudi Arabia, along with several other donors providing smaller amounts.[7]

Figure 5. 3: Shares of Different Donors in Funding of Highway Reconstruction Projects



Note: Does not include projects whose funding is not available.
Source. Adapted from MPW (2005).

5.38 Donor funding of the highway reconstruction program goes through different channels. The vast bulk of funding, except for financing from the Asian Development Bank and World Bank and a small amount of other resources, is for donor-executed projects in the External Budget. Less than 20% of total resources for this program are in the Core Budget.

[6] From the perspective of MPW, however, intermediate ("provincial") roads are an important component of its responsibilities that should not be neglected. In fact, this area of responsibility, if taken seriously by MPW, may help stimulate capacity development and much-needed learning by doing in the Ministry.

[7] It should be noted that this breakdown does not include the northwest quadrant of the Ring Road (from Andkhoy to Herat), work on which has just been initiated, and for which ADB and Iran are providing financial support.

5.39 The dominance of donor-executed projects financed through the External Budget gives rise to a risk of fragmentation in implementation arrangements and difficulties for the Government in exerting leadership. Some major donors have long-established policies of providing assistance in this way, using contractors procured through donor procedures, sometimes with restricted competition (effectively providing projects "in kind"). Moreover, at the outset the capacity of MPW to oversee and monitor these investment projects was limited, even in the case of those whose funding was channeled through the Government budget. Moreover, despite the fragmentation of funding, as seen earlier the gaps in the investment program have been progressively covered over time, and there has been reasonably good coordination among donors in terms of division of responsibilities for different projects.

PRIORITIES FOR THE FUTURE

5.40 In addition to the current program, MPW has prepared a list of prioritized new projects which it hopes will be implemented during the coming five years and for which it is seeking funding. The list, presented in Table 5.5, includes a mix of rehabilitation and widening projects as well as major new roads through difficult terrain. Although most of these project proposals have not been costed, the new East-West highway segment from Herat to Chaghcharan and the two proposed North-South highways (in addition to the Salang route) most probably would involve major investments totaling in the range of at least $800 million if not more, if constructed to Ring Road standards. It is doubtful that the expected traffic on these routes would justify the high costs, particularly since in some cases there are alternative routes for long-distance transport (even though they involve greater distances). Moreover, it is not at all clear, given the large investments already made in reconstruction of the main highways, whether such new projects are of top priority as compared with investments in other sectors. In any case, least-cost options for providing critical accessibility to new areas, involving lower standards than those currently in place for national highways, could be assessed as the first step.

Table 5. 5: Priority Projects Proposed by the Government for the Next Five Years

Road Section	Length km	Description
National Highways		
Dilaram-Farah	253	Connection of Farah to the ring road
Herat-Chagcharan (East-West Highway)	351	Feasibility study being funded by Swedish SIDA
North-South Highway Sheberghan-Delaram	775	Permit direct north-south movement and connect inaccessible central parts to the ring road
North-South Highway Mazar-Lai Sarjangal -Tirin Kot	528	Feasibility study being funded by USAID
Khulm-Kunduz Kishim- Ishkashim	393	Completion of improvements to direct route from Khulm to Ishkashim leading to better links with China in future
Jabalsaraj-Nooristan	172	
Kabul-Chaharikar	51	Road widening
Kabul-Kandahar	100	Road widening (on part of the road)
Total	**2623**	

Source: MPW.

5.41 Several of the proposed projects involve widening existing highways to make them into four-lane expressways. The economic viability of such investments needs to be assessed, in particular against current and projected traffic. Similarly, proposals for rehabilitation/reconstruction of several short segments connecting the Ring Road to small or medium-sized cities would need to be assessed in terms of whether the additional traffic generated would justify the cost.

5.42 More generally, a powerful tool for prioritization of road projects and other expenditures on roads is cost-benefit analysis.[8] While it cannot incorporate all of the broader social and national integration benefits of roads, such analysis can capture the fundamental economic benefits of roads – in terms of decreased travel times, increased traffic, reduced wear and tear of vehicles and lower fuel costs, etc. – and compare these with the costs. Given their substantial costs, competing priorities, and future O&M requirements, any major new highway project proposals must be carefully evaluated and those with very high economic returns (based on cost-benefit analysis) considered for approval first. Benefits depend greatly on traffic forecasts (both freight and passengers), and on available alternative routes. Costs per kilometer may be fairly standard (depending on the type of road construction involved and the condition of the existing road), although there has been a great deal of cost variation in Afghanistan – depending in part on mountainous terrain, the number of bridges, tunnels, etc. High altitude and steep grades also affect the costs of users and benefits to them.

5.43 It is extremely important that further development of Afghanistan's road strategy take fully into account financing constraints, including the need for adequate funding of highway maintenance. Putting forward, let alone initiating, major new highway projects for which funding will not be available would be counterproductive to the sustainability of the road network. Relatively few but adequately financed road investment projects would be more efficient than a larger number of projects with grossly inadequate funding, resulting in major delays and some projects being left uncompleted for long periods of time.

C. Implementation Experience and Issues

5.44 As indicated earlier (see also Table 5.2), considerable progress has been made in implementing the national highways reconstruction program. The pattern of implementation is presented visually in Figure 5.4. There are some important issues, however, as well as lessons from implementation patterns and results which may provide guidance for the future. This section looks at road design standards, contract design and procurement, security arrangements, and overall costs and "value for money" of Afghanistan's highway reconstruction program.

ROAD DESIGN, CONSTRUCTION, AND MATERIALS STANDARDS

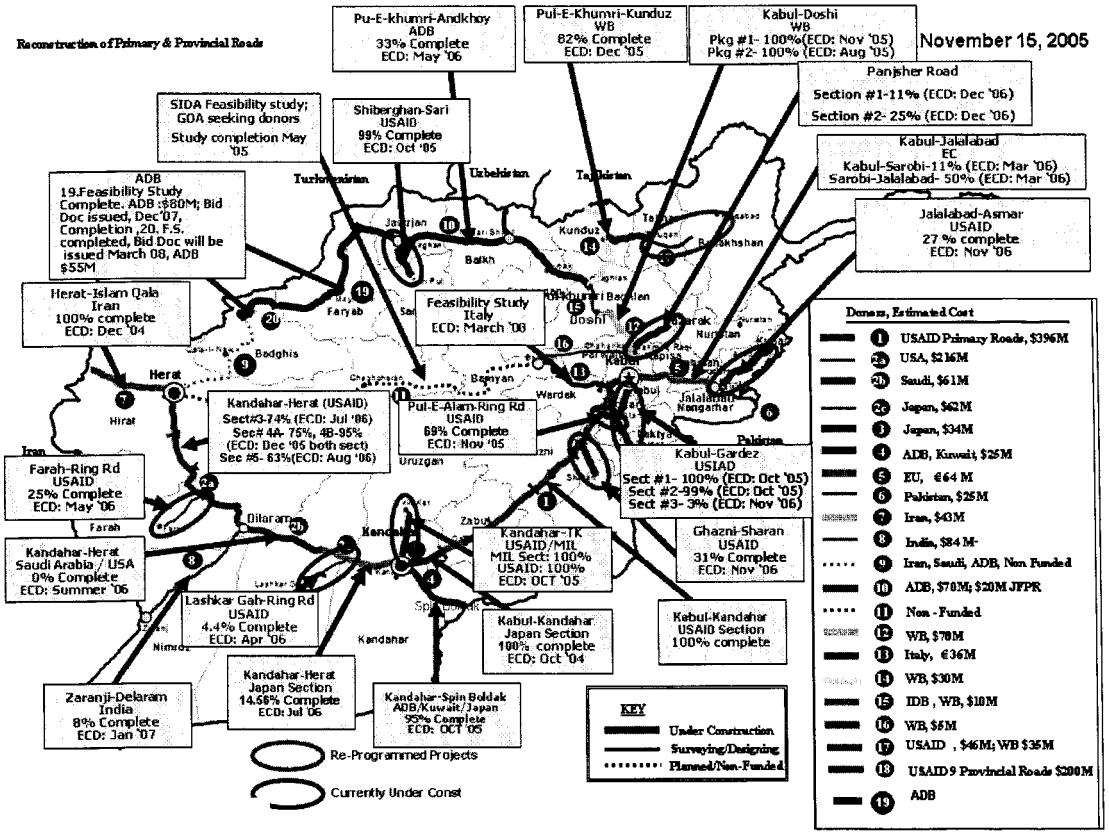
5.45 In general, all of the ongoing highway reconstruction and rehabilitation projects have similar technical road specifications: two-lane single carriage ways (seven meters width with shoulders maximum two meters). Thus for the most part the concern that different projects funded by different donors would have different standards is unfounded based on project information. Interim Road Standards have been developed by CG-TS/GoA/MPW and are to be used by projects under the current Road Master Plan. The four road classification based on functions, as mentioned earlier, includes the following: (i) Regional Highways, (ii) National Highways, (iii) Provincial Roads, and (iv) Rural Roads. And the five technical classifications of road are: i) Expressways-Type I, (ii) Expressways-Type II,(iii) Major Roads, (iv) Minor Roads, and (v) Non-Standard Roads. Finally, a Low Standard road class is also recommended by the Master Plan.

5.46 The cross-section dimensions recommended in the Interim Road Standards are very high compared to geometric standards in neighboring countries, and are unrelated to traffic volume. For example, both the provincial and rural road standards allow for two-lane 7.0m wide pavement, which experience has shown to be uneconomic for roads with low traffic volumes. In contrast, Tajikistan and Kyrgyzstan have a single-lane pavement standard width of 3.75m and 3.5m respectively for low-volume rural roads, and a two-lane standard of 5.5 and 6.0m respectively for secondary roads with low traffic

[8] This is particularly true in the case of road upgrading and capacity enhancement projects, although also applicable, with a larger margin of uncertainty, to new roads.

volumes. The regional highway standard calls for four lanes, which most likely will be uneconomic for most such highways for the foreseeable future, except possibly for short sections such as Kabul – Charikar.

Figure 5. 4: Ongoing Highway Reconstruction Projects in Afghanistan



Source: Consultative Group for the Highway Sector.

5.47 The design standards to be used for different road classes are an important issue because they will affect the overall investment and O&M requirements and the economic feasibility of individual road links. It is strongly recommended that geometric standards such as road widths, curvature, and design speeds be related to traffic levels and terrain, as is customary in other countries. For example, a single-lane standard is adequate for low-volume provincial roads; and a two-lane standard lower than 7.0m (say 6.0m) is recommended for national roads in mountainous areas.

CONTRACT DESIGN

5.48 Comparing the effectiveness of the various contract types used for the highway projects currently under implementation is difficult. Where significant works are involved in a contract (whether it is for rehabilitation of a seriously damaged road or construction of a new road, or construction of specific infrastructure assets like bridges and tunnels), the basic choice is whether (1) to contract for the design work separately from the actual construction work (i.e. sequentially), or (2) to design one contract for

both works.[9] A hybrid option is (3) to contract for preliminary design separately from the actual construction works, and then based on the preliminary design the detailed design is prepared by the works contractor while simultaneously works are proceeding. The detailed design must be approved by a supervision consultant, who could be the same consultant that did the preliminary design or a different consultant selected by competition.

5.49 Option (1) is generally considered to be the appropriate approach when substantial design work is required, because it maximizes the information available to potential bidders for the works contract (and thereby should result in a better outcome of that bidding process) and moreover minimizes the risk of conflict of interest that would arise if a contractor does the design work for subsequent construction that the contractor knows it will carry out itself. However, this option is generally considered to be more time-consuming (an assumption not entirely borne out by experience). On the other hand, option (2) is generally considered to be faster but carries the risk of higher costs and possible conflict of interest in the design work. Option 3 allows a faster bidding process for the construction contract, and it is also flexible if changes in design are needed during construction. The risk of conflict of interest is less than in Option (2) but the time requirement may be somewhat longer, although less than in the case of Option (1).

5.50 An example of option (1) is the Kabul-Jalalabad Road contract, funded by the European Commission. The detailed design was completed by the consultant and then the construction work was separately contracted. Supervision is being carried out by the design consultant.

5.51 An example of option (2) is the Kabul-Kandahar Road contract, funded by USAID. A single contract for all work – including the design, construction, and supervision – was awarded to one contractor. The main contractor then sub-contracted the works to various subcontractors, and the main contractor supervised the work carried out by the subcontractors.

5.52 An example of option (3) is the World Bank-funded Emergency Transport Rehabilitation Project, which mainly covered the Kabul-Salang-Doshi national highway. Preliminary design work including the bidding documents was completed by consultants contracted for this purpose; their work included preliminary design of all drainage structures, retaining walls, tunnels, snow galleries, and all pavement quantifiers needed for strengthening of the roads, and the thicknesses of asphalt was based on field tests of pavements and their residual strengths. The works were then carried out under separate contracts, awarded through a different bidding process. The works contractors had to submit the detailed design to the supervision consultant for review and approval before the actual works started.

PROCUREMENT ARRANGEMENTS AND COMPETITION

5.53 In the contracting of highway rehabilitation projects, as in the case of any other major procurement transactions, the procurement arrangements and their quality are a very important determinant of the results achieved and the value for money from such projects. As discussed in Volume II, Part 2, ensuring transparency, fairness, and adequate competition is the key. However, as most of the highway rehabilitation projects have been donor-executed through the External Budget, procurement arrangements vary considerably.

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[9] Where the work involved is of a simple nature and does not require significant design efforts, then a contract for works only may be appropriate. This is not the case for the bulk of rehabilitation of highways in Afghanistan, which as noted earlier for the most part were in a heavily deteriorated state. For example, the USAID-funded Kabul-Kandahar road started out with the "Build" method as it was intended to build on the existing road without significant design work (either as part of the works contract or separately). However, the condition of the road in some sections was so deteriorated that it required a detailed design to be worked out prior to the initiation of new overlaying work. This required additional funds and resulted in some delays in the project. Another example is the ADB-funded Kandahar to Spin Boldak road, the first highway rehabilitation contract to be awarded in Afghanistan, which suffered from inadequate funding due to incomplete design prior to awarding the works contract.

5.54 Contracting arrangements have ranged from full international competitive bidding to limited competition of one sort or another to sole-sourcing/direct contracting of contracts with entities from the donor country concerned (and also from force account to direct hiring of local contractors). It is reported by the concerned donors that most of the ongoing projects are contracted out according to competitive bidding procedures. However, in the case of bilateral donors there may be national restrictions on the eligible bidders for a contract. Moreover, reportedly as much as 21% of the total contract value of highway rehabilitation projects was through limited or non-competitive processes. The justification for non-competitive arrangements has often been that they will result in much greater speed due to the procedures and extra time required for competitive procedures. Experience often does not fully support this justification.

5.55 Government-executed highway rehabilitation projects in the Core Budget, consisting almost exclusively of World Bank-funded and Asian Development Bank-funded projects, have been contracted through international competitive bidding. In some cases the method used was Limited International Bidding (Repair of the Salang Tunnel) or National Competitive Bidding (especially for small contracts). The Procurement Unit (PU) of the Government supports procurement for most World Bank financed projects and for projects financed by other donors that have decided to use the PU's services. The PU is not made up of government employees but is staffed by consultants; it assists Ministries with tenders, evaluations, and contracting; and it provides advice on a range of procurement issues. The PU is supervised by the Minister of Economy through the Afghanistan Reconstruction and Development Services (ARDS). All procurement by the PU is carried out according to the procedures of the World Bank or other donors who make use of their support. While such extraordinary arrangements for centralized procurement were necessitated by the lack of capacity in line ministries for major contracting, they are seen by the Government and by other stakeholders as a temporary device which should be used only until procurement capacity is strengthened in line ministries. Moreover, under Afghanistan's newly-promulgated Procurement Law (see Volume II, Part 2), procurement is to be handled by line ministries rather than in a centralized manner.

5.56 For projects that do not come under the PU, procurement is carried out directly by the relevant Ministry or donor or project management consultant, recruited for the purpose by the Ministry (for example UN Office for Project Services [UNOPS] in the case of NEEP/NEEPRA projects). Procurement carried out directly by a donor is normally in accordance with the donor's procurement arrangements. An example of this would be that EC-funded projects are procured through ICB, but rules of origin do apply. Within each Ministry, project plans are developed by the relevant department and subsequently approved by the respective Minister. The procurement activities are then carried out by the Procurement Department. Procurement carried out by the Government of Afghanistan is now expected to be in accordance with the new Procurement Law, which is based on international procurement standards. Procurement carried out by project management consultants is also in accordance with the donor's procurement arrangements, although in some cases exceptions are made to use the procurement arrangements of UN Agencies.

5.57 Lack of participation by the Afghan private sector in bidding may also have somewhat reduced competition and increased costs. Constraints include lack of experience in managing large-scale projects and in following donors' financial management and procurement processes; lack of up-front capital (or financing) to mobilize equipment; and difficulties in mobilizing construction labor.

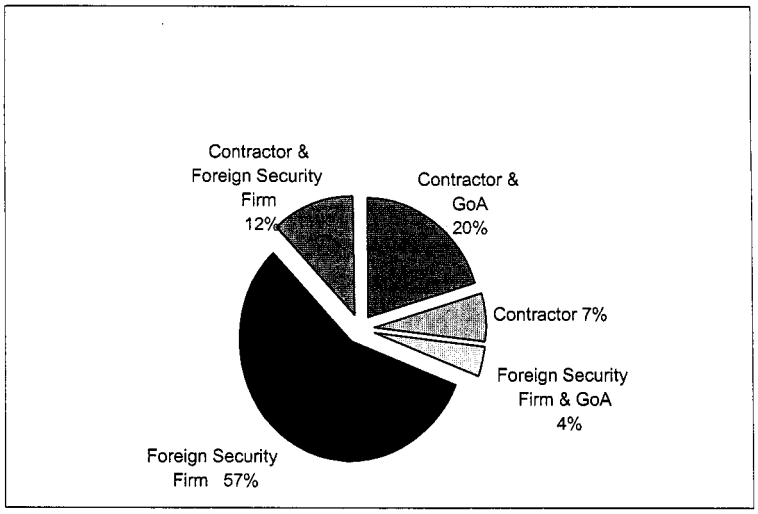
SECURITY ARRANGEMENTS AND COSTS

5.58 Implementing major road projects in an insecure environment not surprisingly is challenging and can impose significant costs. It is estimated that 3-15% of total expenditures on projects in the highway

reconstruction program have been devoted to security, although there appears to be considerable variation across projects.

5.59 As can be seen from Figure 5.5, a variety of different types of security arrangements are being used, but with most (nearly three-quarters) involving a foreign security firm (solely or sometimes in conjunction with the contractor's own arrangements or Government support). Mine clearance on and around the roads where rehabilitation and construction works are occurring constitutes another security-related cost that is an essential component of project costs. In this regard, donors and contractors have cooperated closely with the UN Mine Action Centre for Afghanistan (MACA).

Figure 5. 5: Security Arrangements for Ongoing Road Projects
(% of number of projects)



Source: Table 5.6.

5.60 At least as important as the direct financial costs incurred for security are the delays resulting from security problems or threats, which can affect how quickly project benefits are reaped. It was difficult however to estimate the impact of security in terms of delays and other project costs (aside from direct spending on security). Project site security clearly is an important issue and has been the factor behind most security-related delays. Sometimes expatriate personnel have been evacuated for a period of time (e.g. around the Presidential elections in 2004), whereas in other cases security incidents at or near project sites have caused sometimes substantial delays affecting particular projects (e.g. a major security incident against the Pul-e-Khumri to Shirkhan Bandar Road contractor which caused a three-month delay for that project). Initially there were some delays in coordinating de-mining arrangements, but subsequently these appear to have been more regularized and smooth.

PROJECT COSTS AND VALUE FOR MONEY

5.61 The size of the highway reconstruction investment program, and its implementation through numerous differently designed and implemented donor-financed programs, along with the fairly standard type of finished result required, provides an opportunity to investigate cost performance. While cost comparisons and assessments are not straightforward and need to keep in mind the different parameters faced by individual projects – topographical, terrain-wise, existing road condition, security, etc. – nevertheless the exercise can shed light on implementation issues and constraints and provide some lessons for the future.

5.62 Trying to evaluate the costs of different road projects on a comparable basis and get an indication of the "value for money" is challenging, despite greater comparability among highway projects than is the case in many other sectors. One approach to get a sense of the factors behind differences in "Value for Money" is to compare some or all of the following across a set of projects:

- Planned and actual project costs.
- Planned and actual levels of unit costs
- Time required for projects (time projected and delays)
- Differences in unit costs of various materials used in road reconstruction.

5.63 Available basic project information including on costs and unit costs (per kilometer of road reconstructed) is shown in Table 5.6.[10] This indicates a wide variation in per-km costs, ranging at the extreme from $118,000/km to $589,000/km, with a scattered distribution of unit costs among projects and no tendency to cluster around an average or mean. In fact there is some clustering in the direction of the two extremes, with six out of the 17 projects having unit costs below $200,000/km and four projects having unit costs above $540,000/km.

5.64 Clearly this wide cost variation reflects a number of contributing factors, including many that are beyond the control of the project entity, donor, or Government. The security situation and threats (as well as actual incidents which unfortunately have affected some road projects) are different across the country, necessitating different levels of security preparedness and expenditures, and possibly resulting in cost-increasing delays of different durations. For example, security conditions are generally worse in the southern and eastern regions of the country, although there have been serious security incidents in the north and west as well. The difficulty of the physical terrain also varies widely, affecting for example the number of bridges and culverts that need to be constructed, and in places the heavy earthwork. The Salang Highway between Charikar and Doshi, passing through rugged terrain reaching a maximum altitude of over 3,300m above sea level, is a notable example. The underlying condition of the existing road also varies greatly; for example the condition of the Pul-i-Khumri Shirkhan-Bandar road, which has among the lowest unit costs for the listed projects, was considered relatively good and could be built upon, whereas the existing road had deteriorated far more in the case of some other projects.

5.65 However, there are also other factors which appear to have contributed to differences in unit costs, which are at least partly under the control of the project entity, donor, and/or Government. One is speed; for example, contributing to the high cost of the Kabul-Kandahar Road, the highest-cost project, was the strong pressure from all sides to complete the project very quickly. Although the project was completed expeditiously, costs were much higher (and exceeded the planned level – actual unit costs are estimated at $668,000/km as opposed to the design cost of $589,000/km). Thus not surprisingly, high speed can carry a high cost. Other reasons for the relatively high costs and delays for this project may include the use of a General Construction Manager, untraditional pavement design with short durability, and allowing traffic to run on pavement layers before the asphalt wearing course was laid.[11]

5.66 Another contributing factor to differences in unit costs may have been the choice made as to whether to go for a uniform amount and standard of work (and costs) throughout the length of a road, or to minimize costs by taking advantage of places where the existing road was in better shape, and/or where less work would be were required to achieve a given standard for the reconstructed road. Some of the projects with the lowest unit costs appear to have followed this latter approach.

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[10] It should be noted that the cost information in the table relates to planned/design costs, not actual costs, which in some cases appear to have considerably exceeded these figures. However, since actual or revised cost data were not available for all projects, it was considered best to calculate unit costs uniformly on the basis of design costs for all projects.

[11] This last issue is of course closely related to the pressure for speed, as there was great demand to allow traffic on the rehabilitated highway as quickly as possible, even before work was fully completed.

Table 5. 6: Unit Costs and Various Features of Highway Rehabilitation/Reconstruction Projects

Project Name	Total Length (KM)	Donor	Total Cost (US$m)	Cost per Km (US$m\Engineering+ Security +Dimining Costs	Contract Design	Security Arrangement	Contractor	Supervision	Method of procurement	Element of Dealys in Implementation
Sarobi-Jalalabad Road	74.3	EU	38.69	0.521	1	Contractor & GOA	China Railway	WSP (Sweden)	ICB*	Security
Kabul-Sarobi Road	67.7	EU	35.74	0.528	1	Contractor & GOA	SINOHYDRO (C	WSP (Sweden)	ICB*	N/A
Balch - Andkhoy	243	ADB	28.7	0.118	3	Contractor & GOA	Samwhan Corp	Shaladia/USA	ICB*	N/A
Pul-e-Kumri to Balkh	181	ADB	36.2	0.2	3	Contractor & GOA	Samwhan Corp.	Mirlam/Malys ia	ICB*	N/A
		ADB	0	0	3					
Kandahar-Spin Boldak Road	103.5	JFPR/Kuwait/ADB	25	0.242	3	USPI & GOA	SC-C&C JV (Ind	Shaladia (USA)	ICB	N/A
Herat-Islam Qala	120	Iran	45	0.375	2	Contractor	Company 115	Min. of Rd & Trans. Iran		
Kabul-Kandahar (Km 433-485)	53	Japan	29.3	0.553	2	USPI	Taisi, Dai-Nippon, Toshiba	ICS/Nippon Koei		
Kandahar-Herat Road	118	SAUDI	52	0.391		USPI		LBG	ICB	N/A
Kabul-Kandahar Road	389	USAID	228.95	0.589	2	USPI	AKC, Mansel, Kolfinal, BSC	LBG	NP by Genl Contractor	N/A
Kabul-Gardez Road	123	USAID	30	0.243	2	USPI	ARC, Cukurova, Arian JV	LBG	Limited Competition	N/A
Kandahar-Tirin Kot Road	148	USAID	22	0.149	2	USPI	CADG, HCL, BSC, C&C JV	LBG	Limited Competition	N/A
Jalalabad-Asmar Road	122	USAID	24.2	0.197	2	USPI	ACLU KCC	LBG	Limited Competition	N/A
Panjsher Valley Road	20	USAID	2.7	0.135	2	USPI	ENTES, MPW	LBG	Limited Competition	N/A
Sheberghan-Sari Pul Road	56	USAID	14.8	0.264	2	USPI	LIMAK	LBG	Limited Competition	N/A
Kabul-Olang Road	100	WB	31.34	0.313	3	Contractor, USPI	ENTES	LBG	ICB	N/A
Olang-Doshi Road	75	WB	29.5	0.393	3	Contractor, USPI	LIMAK	LBG	ICB	N/A
Pull-Khumri-Shirkhan Bandar	171.8	WB	21.1	0.123	3	Contractor, USPI	China Railway	LBG	ICB	Security & mobilization
Total	2183.3		695.22							
Minimum cost per Km of Road				0.118						
Average cost per Km of Road				0.335						

Contract Design

(1) Sequential contracting of detailed design and construction works

(2) Single contract for all design work plus construction works

(3) Contracting of preliminary design and then a single contract for both detailed design plus construction works, supervised by preliminary design consultant

ICB	International Competitive Bidding
NP	Negotiated Procurement
LBG	Louis Berger Group
USPI	Foreign Security Firm

5.67 It would be expected that the extent of competition in the bidding for different contracts might affect unit costs, i.e. costs would be higher when there is limited or no competition in bidding for contracts. The data available did not permit this issue to be explored to any great extent or to reach meaningful conclusions. Although the great majority of projects were reported to be contracted through competitive bidding, there are likely to be differences in the set of potentially eligible bidders for different donors, as well as in other dimensions of tendering which may affect the extent and effectiveness of competition. Another factor which may have limited the benefits from competitive bidding could be the relatively small number of technically-qualified international concerns willing to bid on contracts and work in Afghanistan.

5.68 Yet another factor is the cost of materials. For example, USAID is not permitted to procure asphalt from Iran, which might have been able to supply it at a lower cost than other sources, especially if transportation costs from farther distances were involved. In the case of the World Bank-funded Emergency Transport Rehabilitation Project, all bitumen came from Turkey by truck, with substantial transportation costs involved. On the other hand, works carried out by Iranian contractors (as part of Iran's assistance program for Afghanistan) benefited from lower costs of these materials. ADB has gotten a special exemption to source asphalt from Iran (which is not a member of ADB).

5.69 To try to probe more deeply into some of the factors behind differences in unit costs, further information collected on seven major projects in the highway rehabilitation investment program (funded by four donors, namely USAID, ADB, EC, and the World Bank) is summarized in Table 5.7. While the qualitative factors given as contributing to delays and/or higher costs are hard to evaluate and do not necessarily differ very much across projects, it is clear that security costs for the Kabul-Kandahar Highway USAID-funded project have been very significant. Security was also consistently listed as a factor contributing to higher costs in the case of other projects as well. For example, the EC had to increase the total costs of their two major projects, from Kabul to Jalalabad, with further funds to strengthen the security arrangements after an unfortunate incident occurred to the contractor's workers. The Asian Development Bank and World Bank have also committed additional funds for security purposes.

5.70 Other factors behind differences in the "value for money" of different highway projects can be related to weather delays, poor quality of construction materials, and the Government's capacity and efficiency in timely addressing the demands of development agencies and contractors (e.g. for permits to import project-related goods).

5.71 While it is not possible to ascertain with any degree of precision how most of the factors contributing to higher costs and delays affected projects differentially, more detailed information on unit costs of road building materials can be used to shed light on this aspect and compare with similar information for neighboring countries. Table 5.8 presents available information on the applied unit costs for the main materials used in road building (pavement compound). This can be compared to similar information for projects in Central Asia (Kyrgyz Republic and Tajikistan) and Pakistan, shown in Tables 5.9 and 5.10, respectively.

Table 5. 7: Costs and Contributing Factors for Selected Projects

Selected Major Highway Projects	Status	Project Costs (US$ million)		Unit costs /km (US$ million) Pavement component		Time and Delays Days		Factors Behind Differences in "Value for Money" (Cost and Time)					
		Tender Cost	*Actual up to Date*	*Planned*	*Actual up to Date*	*Planned*	*Actual up to Date*	*Contracting Method*	*Security*	*Cost of Contract-ors*	*Type and Cost of Construction Materials*	*Implementation Method*	*Others- i.e. Contractors, Weather, GoA Procedures*
USAID													
Kabul-Kandahar Road	Ongoing	228.95	260	see next table	see next table	720	Ongoing / partial delays	NA	Security problems imposed costs and delays	NA	Constraints in construction materials	Move from Build to Design- build	Weather
ADB													
Pul-e-Kumri - to Balch Road	Ongoing	28.7	28.7	see next table	see next table	720	Ongoing no delays	NA	Security	NA			GoA procedures, Weather
Balch – Andkhoy Road	Ongoing	36.2	36.2	see next table	see next table	720	Ongoing no delays	NA	Security	NA			GoA procedures, Weather
EC													
Kabul-Sarobi Road – Lot1	Ongoing	34.4	37.23	see next table	see next table	880	Ongoing no delays	NA	Security	NA		Build	GoA procedures, Weather
Sarobi-Jalalabad Road – Lot2	Ongoing	34.43	40.3	see next table	see next table	720	Ongoing no delays	NA	Security	NA		Build	GoA procedures, Weather
WB													
Kabul-Salang Road	Ongoing	31.34	31.34	see next table	see next table	540	Ongoing / partial delays	NA	Security, demining	NA	-	-	GoA procedures, Weather
Slang-Doshi Road	Ongoing	29.5	29.5	see next table	see next table	540	Ongoing / partial delays	NA	Security, demining	NA	-	-	GoA procedures, Weather

Table 5. 8: Applied Unit Costs for Main Materials Used in Road Building (Selected Afghan Highway Projects)

Unit costs for road construction materials of major donor financed highway projects in Afghanistan

		Unit Costs in USD $						
		USAID	WB		EC		ADB	
Items	Unit	Kabul-Kandahar Road	Kabul-Salang Road	Slang-Doshi Road	Kabul-Sarobi Road	Sarobi-Jalalabad Road	PuleKumri-Balch Road	Balch – Andkhoy Road
Earth Works	m^3	4	2.8	2.5	2.2	1.9	1.5	1.5
Granular Pavement								
Subbase	m^3	18	24	24	8	39	10	16
Shoulder materials	m^3	18	22	22	24	39	10	16
Crushed stone bed	m^3	23	21	20	24	23	15	19
Asphalt Pavement								
Prime coat	m^2	1	0.6	0.6	0.64	0.45	0.6	0.6
Tack coat	m^2	0.5	0.26	0.26	0.64	0.45	0.3	0.2
2layers S.dressing	m^2						2.2	
AC base course	m^3	100	110	120	101	169	110	110
AC wearing course	m^3	90	100	110	108	156	120	120
Bitumen	tone							
Cost per m US$		250	259	246	252	416	237	275
Cost per km (US$ million)		0.250	0.259	0.246	0.252	0.416	0.237	0.275

The actual unit costs used for asphalt pavements are higher in comparison to neighbouring countries- i.e. the average cost of AC base course (thickness 6-10 cm) and AC wearing (thickness 2- 5 cm) is around 85 USD/cum

Table 5. 9: Applied Unit Costs for Projects in Central Asia

Central Asia (Tadjikistan, Turkmenistan and Kyrgystan)		
Items	Unit	Unit Costs in USD $
Earth Works	m^3	4
Granular Pavement		
Subbase	m^3	9
Shoulder materials	m^3	16.4
Crushed stone bed	m^3	17
Asphalt Pavement		
Prime coat	m^2	1
Tack coat	m^2	0.5
2layers S.dressing	m^2	
AC base course	m^3	73
AC wearing course	m^3	67
Bitumen	tone	
Cost per m US$		192
Cost per km (US$ million)		0.192

Table 5. 10: Applied Unit Costs for Projects in Pakistan

Pakistan		
Items	Unit	Unit Costs in USD $
Earth Works	m^3	2.5
Granular Pavement		
Subbase	m^3	10
Shoulder materials	m^3	14
Crushed stone bed	m^3	12
Asphalt Pavement		
Prime coat	m^2	0.55
Tack coat	m^2	0.4
2layers S.dressing	m^2	
AC base course	m^3	70
AC wearing course	m^3	80
Bitumen	tone	
Cost per m US$		175
Cost per km (US$ million)		0.175

5.72 A number of observations can be made based on the information in these tables. First, the variation across the Afghan projects in terms of the unit costs of applied materials (taken as a whole) is much less than the variation in the total unit costs of these projects. Except for one outlier project with considerably higher unit costs of materials (the Jalalabad-Sarobi Road), the unit costs of all other projects cluster in the area around $250,000/km, with the difference between the highest and lowest unit cost figures (excluding the one outlier) only 16%. By comparison, even excluding the two highest and two lowest observations from the 17-project sample in Table 5.5, the difference between highest and lowest total unit-costs of the projects is 270%. Looking only at the same seven projects that are included in Table 5.7, the difference is 175%.[1]

5.73 Second, the relatively narrow range of differences in total unit costs of road building materials does mask significant cost differences for individual items. For example, the unit cost of earth works for the Kabul-Kandahar Road was substantially higher than in all other projects. As another example, the main factor behind the high unit-costs incurred for the Jalalabad-Sarobi Road is the very high costs for the asphalt-concrete course and asphalt-concrete wearing course, 67% and 44% respectively higher than for the Kabul-Sarobi Road.[2]

5.74 Third, comparing Table 5.7 with Tables 5.8 and 5.9, it appears that unit costs for road building materials for the Afghan projects are significantly higher than in neighboring countries. In fact, even the lowest unit cost reported for one of the Afghan projects exceeded the figures for Central Asia and Pakistan by 23% and 35%, respectively. The simple average level for the Afghan projects (excluding the outlier at the high end), $253,000/km, is 32% higher than the unit cost in Central Asia and 45% higher than in Pakistan. Most, but not all, of these differences can be attributed to the asphalt concrete base course and asphalt concrete wearing course, as well as to a lesser extent granular pavement-related costs. The reasons behind the substantially higher unit costs in Afghanistan should be further clarified, and to the extent possible remedial measures taken in relation to future projects (for example if there are specific market or administrative obstacles affecting prices of certain materials, or if some contractors are including prices grossly above prevailing market levels in their bids).[3]

5.75 Fourth, the available data suggest that the main source of differences in overall unit costs of the different projects in Afghanistan (shown in Table 5.6) does not lie in the cost of road building materials per unit of road built but rather stems from other possible factors. These include: (i) differences in security costs incurred by a project; (ii) differences in the degree of difficulty of other work associated with the project (e.g. bridges, tunnels, etc.); (iii) differences in the proportion of road length on which full road rebuilding was required and conversely the proportion on which lighter work would be sufficient (most probably an important factor in the lower-cost ADB and World Bank-funded projects; and (iv) differences in contractor overhead and profit. While some of these factors are beyond the control of the Government or the contractor and donor concerned, others may be improved for example through cost-saving design, more effective bidding processes, etc.

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[1] It should be noted that applied unit costs for road materials for the two ADB-funded projects shown in Table 5.7 exceed the total unit costs shown in Table 5.5. This confirms that the level of road rebuilding associated with the unit costs of materials reported was not conducted on the full length of these roads. If parts of the existing roads were in relatively good condition to start with, such an approach would be cost-effective. As noted earlier, the very low cost figure for the Pul-i-Khumri – Shirkhan Bandar road reflects the relatively better initial condition of much of this highway.

[2] This may be in part due to changes in the international prices of these items.

[3] One option that Afghanistan may want to consider is to discuss with the Government of Iran whether large quantities of bitument could be made available at lower than international market prices for road projects in Afghanistan. This would eliminate the risks and transport costs now embedded in the cost of asphalt in international contractors' bids.

D. Maintaining and Sustaining the Highway System

5.76 The successful implementation of the highway rehabilitation investment program, as well as proposed future road investments that may be undertaken, means that there will need to be adequate funding and capacity for highway maintenance. Otherwise, as happens in many countries that do not prioritize road maintenance, the condition of the highways will deteriorate over time and, within a decade or so reach the point where major rehabilitation investments once again will be required. Without proper maintenance, the overall economic benefits from road investments will be sharply reduced, and much higher expenditures will be required later to restore the highway network once again.

MAINTENANCE OPTIONS AND ARRANGEMENTS

5.77 Prior to the conflict, maintenance was directly handled by MPW, through force account. The maintenance equipment of the Ministry was depleted during the conflict, as a result of lack of expenditure on equipment maintenance and new equipment, and there was a great loss of skilled mechanics and engineers required to operate and maintain the equipment.

5.78 Parts of the Regional and National Highways are nearing completion and will be handed over to the Government of Afghanistan / MPW soon. The roads will fail unless there is adequate O&M capacity. To undertake efficient and effective road maintenance, MPW plans are to establish eight maintenance zones to cover national and provincial roads throughout the country. The Ministry has finalized a plan for the upgrading, maintenance, and development of the national road network and has submitted this to the Government. The plan, divided into four categories, is currently in Phase I of implementation. The planning and budgeting of routine ongoing maintenance will require focus and funding. In this regard a draft policy paper has been developed for options to fund maintenance of the national road network. The present institutional capacity as well as a shortage of funding to undertake even regular routine maintenance of the road network needs to be addressed.

5.79 In principle, there are several options for organizing the maintenance of highways, including in particular (i) building capacity for maintenance within MPW through force account, or (ii) private sector handling maintenance through competitive contracting of maintenance by MPW. The two options have rather different implications for capacity requirements – both require building capacity in MPW, but the capacity needed is different. International experience suggests that for the most part, contracting out maintenance to the private sector is the best approach. Moreover, under the current conditions in Afghanistan, labor-intensive maintenance work should be encouraged wherever feasible and efficient (e.g. routine shoulder maintenance, maintenance of gravel roads, etc.). For smaller local roads, community-based maintenance is often the best option.

5.80 Afghanistan, facing its current situation and capacity limitations, does not have much choice but to (i) build capacity in MPW to contract and oversee maintenance (the idea of setting up a separate road agency is much too premature); (ii) keep some limited maintenance capacity in MPW for reserve/emergency purposes, but not beyond that; and (iii) handle the bulk of maintenance by contracting with the private sector. An important consideration is the need to foster the development of a strong and competitive Afghan contracting industry, discussed in the following section. For this purpose, the EC, in coordination with MPW and the CG-TS, is funding and launching a demonstration project to carry out the maintenance on the Kabul-Jalalabad road for a three-year period through a contractor. Some training and mentoring will be provided, but the supervision of the maintenance contract is envisaged to be carried out by MPW alone.

5.81 A related issue which affects the rate of deterioration of highways, maintenance problems, and maintenance costs is the weight carried by the trucks using the highways. If the axle-load weight is significantly above certain technically-determined limits (which vary with the specifications, quality, and strength of the road), the rate of deterioration of the road surface will accelerate, often dramatically. This can impose large extra costs in the form of greater maintenance requirements. Thus it is very important to ensure that appropriate axle-load limits are imposed and enforced. Afghanistan does have axle-weight regulations on the books, with enforcement vested in the Ministry of Interior. The axle load limit according to the recent Interim Standards is 12 tons, which is identical to the limit applicable in Pakistan. Enforcement is no easy matter, however, under current conditions in Afghanistan, where as in some other nearby countries axle-load weight limits are largely observed in the breach. Nevertheless, efforts should be made to address this important issue.

THE AFGHAN PRIVATE SECTOR AND DEVELOPMENT OF A CONSTRUCTION INDUSTRY

5.82 ***Encouraging the development of an Afghan road contracting sector.*** The private sector in Afghanistan potentially can play an important role in implementing road projects. The role of the Afghan private sector in ongoing road sector development projects is, however, largely limited to a subcontracting role for the time being, due to the small size of contractors and their limited financial capacity. Moreover, under current conditions in Afghanistan local contractors often register themselves as NGOs. More generally, despite the fact that a large contingent of Afghan private construction companies thrives in neighboring Iran and Pakistan, their input and participation in major road construction projects in Afghanistan has been limited and primarily in a sub-contractor role.

5.83 However, many Afghan contractors have some experience engaging in works in rural, remote, and somewhat insecure areas. This experience and local knowledge can be tapped in implementation of smaller works in rural and remote areas, as is already occurring. However, capacity building in the Afghan contracting industry is urgently needed.

5.84 For smaller and medium-sized contractors, lack of availability of up-front capital as well as absence of credit/banking/insurance, capacity limitations (which, for example, mean that many contractors are unable to produce internationally acceptable bid documents), irregular availability of construction labor, and logistical and access constraints are common problems.

5.85 It is extremely important to enhance the development of the Afghan private sector through the highway investment and maintenance programs. This implies that maintenance capacity should be provided by the private sector. Support to the Afghan private sector, and to the private road construction industry and contracting/consulting industry, has been a gap in international assistance to Afghanistan. As a result the serious yet addressable constraints faced by the private sector – in terms of finance, equipment, technical capacity, ability to prepare bidding documents, etc. – have not been adequately addressed. The solution to this is accelerated support to private sector capacity building.

5.86 At present, while numerous road construction projects are underway, and while large maintenance contracts may be handled through international contractors, local contractors can only be expected to handle part of the country's construction and maintenance work. As a pilot approach to address this issue, the EC has divided work to be tendered in 2005/06 into lots which should be small enough for local contractors to be able to compete directly. All five lots have been awarded to local contractors, and the works have been completed on time and within budget. Such an approach will help build up a viable Afghan contracting industry in the road sector. Another vehicle for this is for successful Afghan contractors to move up from their current activities on smaller tertiary and farm-to-market roads to progressively larger contracts and activities over time.

5.87 ***Building capacity in the private sector versus in the public sector.*** At present, public sector capacity is extremely limited although there are staff and some (mostly aged) equipment. However, some proposals call for international engineering expertise as well as equipment to be provided to the concerned public sector entities. But this will take time and resources and is not advisable from the perspective of development of the private sector and private sector-led economic activity and growth.

5.88 The question arises as to whether building up the capacity of Government departments and state-owned enterprises would occur more quickly than capacity building in the Afghan private sector. Given that there are already many going private concerns, some of them successful, it would be reasonable to expect that capacity building in the private sector, if financial and other resources are made available under appropriate conditions, would be considerably faster than would be possible in the public sector.

5.89 Moreover, investing in government departments/SOEs and giving them guaranteed access to works contracts (particularly the smaller works that the Afghan private sector has demonstrated it is capable of handling) would send a very negative signal with respect to development of the Afghan private construction industry. And once public sector capacity is built up, it would tend to become entrenched, privatization would take additional time, and in the meantime the development of the private construction sector would be inhibited. In the case of smaller construction projects, there is already some domestic private sector capacity to handle these, which should be nurtured and expanded.

5.90 While using force account for sizable projects would send an adverse signal to the private sector and would risk hindering its healthy development, use of special arrangements in extremely insecure areas might not be entirely ruled out. Under such conditions construction activities would more closely resemble military operations. But building up extensive force account/SOE capacity in general would not be warranted.

5.91 Thus MPW should not try to restore the construction and maintenance capacity that it once possessed. The way forward would instead be to engage the private sector in road construction and maintenance work. A stronger local contracting industry has to be created. The Ministry hence needs to re-organize its maintenance units, which it has started doing under Government's Priority Reform and Restructuring (PRR) program. Part of the Ministry's present maintenance staff should be given training in labor-based road maintenance in order for them to be able to act as trainers for private sector labor-based maintenance units – which may be small-scale contractors and community groups. The rest of the maintenance staff could be formed into units to perform emergency repairs and routine maintenance works. A clause on compulsory use and training of local subcontractors could be included in highway rehabilitation contracts, to encourage development and training of the local contracting industry.

5.92 The main part of the road and airport construction staff of about 1,600 that MPW still employs should, to the extent possible, be transferred to private sector contractors (with provisions to absorb them). This can be achieved partly in connection with the ongoing donor financed highway rehabilitation projects.

5.93 MPW would thus concentrate on two functions: planning and contracting (i.e. to enter into and administer contracts). How to achieve the transition to these two roles is set out in the Transport Sector Review's Consultation Paper 2.3. This paper also puts forward a recommended approach for capacity building, which so far has not been initiated. Efforts must be redoubled to ensure that the State adopts its role as a regulator of the private sector, not a competitor. As mentioned earlier, recently MPW and the donors have agreed on technical assistance for administrative reform and capacity building in MPW. The TA will be financed by a grant from the World Bank co-financed by Sida.. The main purposes of the TA are to assist MPW to develop, manage, and implement a multi-donor supported and funded program for (i) administrative reform and capacity building in MPW, and (ii) capacity building of the private

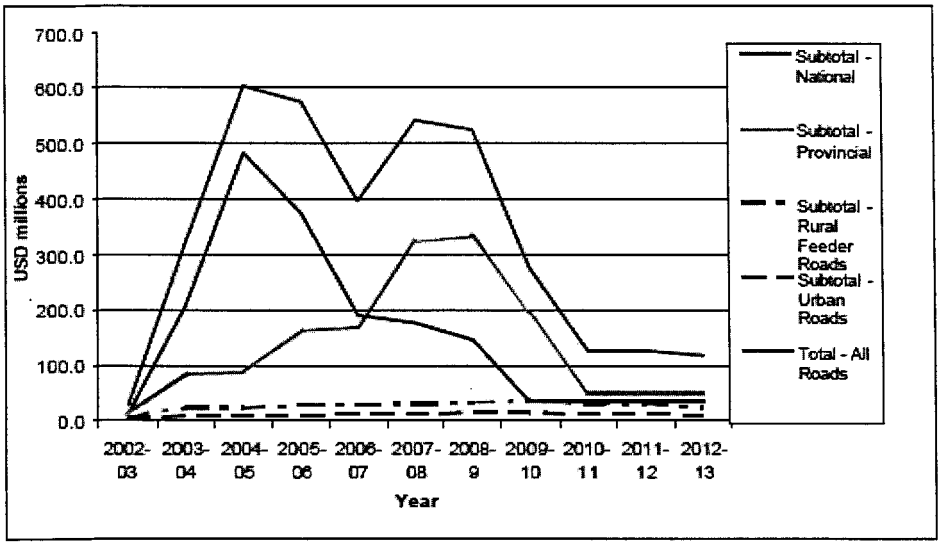
contracting sector for, in particular, road maintenance and minor construction works. A secondary purpose is to provide, as and when required, support on an ongoing basis to MPW for the implementation of capital investment projects.

LIKELY FUTURE MAINTENANCE COSTS

5.94 As emphasized earlier, roads once built have to be regularly and properly maintained; otherwise they will deteriorate, not visibly immediately, but increasingly over time until major, costly rehabilitation investments become required. It has been estimated that the financial requirements for properly maintaining the newly reconstructed Regional Highways, i.e. the core national highway system (Ring Road and major links with neighboring countries), will rise to around $41 million per year by 2011 when periodic maintenance will be required (MPW, 2005 p. 76). For the other national highways, maintenance costs are expected to reach about $25 million annually, and for the provincial roads managed by MPW another $25 million or so. Thus overall maintenance requirements for the roads managed by MPW will be in the range of $90 million per year, not including maintenance of any new highways that may be constructed in the future, and nor the maintenance requirements for the numerous smaller roads.

5.95 The time profile of maintenance requirements is illustrated in Figure 5.6. The figure shows that in addition to the first "peak" of rehabilitation investment expenditures on the core system, which is occurring now, there will be a second, smaller "peak" as rehabilitation of the provincial road system moves forward. It should be noted that this figure does not include investments in any new highway projects, even though a number are proposed in MPW's prioritized Master Plan (see Table 5.5).

Figure 5.6: Projected Annual Sustaining Costs (Rehabilitation and Maintenance)



Source: MPW (2005) and staff estimates.

FISCAL SUSTAINABILITY OF THE HIGHWAY SYSTEM

5.96 The future maintenance costs of the highway system (and more generally of the road system as a whole) are substantial as discussed above, and questions about the fiscal sustainability of the highway and road systems. The discussion below focuses on the national highway system.

5.97 A first key issue is to ensure that there are adequate financial resources allocated in the national budget for highway maintenance. This activity has to be prioritized, if necessary at the expense of new

road projects. Maintenance of existing roads with substantial traffic will usually reap higher economic returns than construction of new roads.

5.98 A second issue is whether the existing revenue sources of the national budget can bear the burden of adequately funding highway maintenance. While maintenance of the Regional Highways alone (estimated at roughly $41 million per year, not including maintenance of any new highway investments beyond the existing reconstruction program) would appear to be manageable, it must be kept in mind that there are many other claims on budgetary resources for operations and maintenance (O&M) in the different sectors. Moreover, at present half of Afghanistan's recurrent Core Budget is financed by international assistance, which is not expected to continue such financing indefinitely. For these reasons, it would be essential for the Government to mobilize additional financial resources to help ensure that the budget remains manageable and sustainable while absorbing the necessary and high-priority costs of adequate highway maintenance.[4]

5.99 A third issue is what additional sources of revenues can be tapped, in particular those that are closely related to the use of highways, so that at least a considerable part of the burden falls effectively on the main beneficiaries of the highways. The potential revenue sources which meet this criterion most appropriately include road tolls, fuel tax, and vehicle tax/fee. As summarized in Box 5.1, the Transport Sector Review (TSR) recommended that the Government introduce tolls on major highways in the near future, whose receipts would be dedicated for direct financing of maintenance contracts for road sections on which the tolls are collected. The TSR further stated that over the medium term fuel and vehicle taxes could be introduced when the conditions are appropriate.

Box 5. 1: Financing the Road Sector, Recommendations of the Transport Sector Review

The recommendation of the Transport Sector Review is that the Government should introduce tolls to finance specific turn-key maintenance contracts for upgraded roads, and subsequently impose ordinary fuel and vehicles taxes. Such measures are required for financing the maintenance of the road network.

Options: Five different options based on road user charges are evaluated. It is possible that road user charges in a medium term perspective may be used to recover both routine and periodic maintenance costs. Full cost recovery by way of road user charges is not an option for Afghanistan for many years to come.

Criteria: Six different criteria are used to assess the options considered. The outcome of the assessment is that the preferred option in the short term is to introduce tolls to finance long-term maintenance contracts for rehabilitated roads. From a longer-term perspective, systems based on conventional road user charges (e.g. a surcharge per liter of fuel) are viewed as superior to systems based on tolls. They are better in terms of minimizing fraud, and the administrative costs are modest. Therefore, in the medium term the best option is a system comprising surcharges on fuels and vehicles, which may be considered once a regime of taxation of fuels on road users has been imposed and a functioning vehicle register system is in place.

Recommendations: A system for the imposition tolls on vehicles using national roads which have been upgraded and/or rehabilitated should be introduced in the near future. The toll revenues should be used to finance the contracts for routine maintenance of these roads, following completion of the upgrading and/or rehabilitation works, and the tolls should be set to provide for full financing of these maintenance contracts. The system should allow for a specific contract to be financed exclusively by the tolls collected on the road concerned, as well as cross-subsidization between different roads as necessary.

Actions: A complete design of the recommended new system, including draft legislation, should be prepared. Additionally, a plan for its implementation should be prepared.

Source: Transport Sector Review (2003), Policy Paper 2.4.

5.100 All toll collections by MPW on roadways in Afghanistan had been discontinued in September 2002 by Presidential Decree. The reason for this, as explained by MPW staff, is that some (though by no means all) of these toll roads used to be paved asphalt roads, but that due to the ongoing rehabilitation

[4] An option to alleviate fiscal constraints in the short run would be to seek additional donor funding to support highway maintenance for a stipulated period of time. However, this would not detract from the need to mobilize additional revenues so that highway maintenance costs can be absorbed in the budget over the medium term.

activities some sections of these roads have granular surface that is not authorized to be used as a toll road according to Afghan laws. Once these roads are upgraded to their original asphalt surface, the toll law can be implemented again. However, an underlying reason for discontinuing these tolls was the perception that the funds collected were being improperly diverted into the wrong hands.

5.101 So currently MPW is not collecting charges/tolls from road users. The Ministry of Transport has been collecting tolls on some roads from the trucking industry. The Ministry of Interior through its numerous security checkpoints is collecting fines for overloading or for non-payment of annual vehicle and driver license fees. Finally, local security checkpoints are also sometimes charging non-legitimate "tolls". An additional issue is the illegal tolls collected by local commanders on many roads.

5.102 Stopping existing official tolls, without good reason or their replacement by a new set of rationalized tolls, would appear to be a step backward. In particular, the Salang Tunnel is an obvious place where official tolls should be collected even now. And there is an urgent need to stop illegal tolls from being collected by local commanders, which will become technically easier to do as the highways concerned are reconstructed.

5.103 The Government / MPW has been developing a set of new tolling procedures that combine the existing Afghan toll law and new approaches based on international experience. A change to the current Afghan law on this subject would have to be coordinated and approved/promulgated. It is expected that at least some tolls on selected major highways will again be collected starting in 2005/06. These tolls, unlike the dedicated tolls proposed in the TSR, are collected for revenue purposes and form part of the national budget, and are not earmarked for road maintenance or construction, as based on a recent Government decision, the Ministry of Finance is responsible for toll collection.

5.104 Yet another question, sometimes raised, is whether a separate, partially autonomous "Road Fund" should be established to fund road maintenance based on earmarked resources from one or more of the highway-related taxes mentioned above. Based on international experience, road funds are difficult to operate appropriately and Afghanistan is not mature for an instrument of this nature. Moreover, the road fund concept raises issues about earmarking particular revenue sources for specific uses, which is not generally recommended as it constrains budget management. In particular, under current conditions faced by Afghanistan, domestic revenue is very low and earmarking a significant portion of it to a specific use would not be advisable. Another issue associated with earmarking is that of transparency and control, and also the comprehensiveness of the budget (see Volume I, Chapter 2 and Chapter 6) is adversely affected. Hence the Government's approach of developing highway tolls, collecting them as part of the budget, and ensuring adequate allocations for highway maintenance through the budget is appropriate.

E. Conclusions and Recommendations

SUMMARY FINDINGS AND CONCLUSIONS

5.105 As discussed in this chapter, the Government and international community have come together to mobilize funding for and implement a set of major highway reconstruction investments. Other than the enormous spending on building up Afghanistan's security forces, the road sector has been the biggest recipient of foreign assistance. The Government encouraged donors to invest in reconstruction of the core national highway network, and donors responded well, funding different segments with relatively good coordination for the most part, avoiding duplication or competition among donors for specific routes. Moreover, gaps in the main network were progressively filled over time, and the investment program for the Ring Road and key connections to neighboring countries is basically fully funded, with most of it

under implementation. While implementation has not been as rapid as either the Government or donors had originally hoped, good progress has been made on many projects, and moreover implementation overall has been considerably faster than in most other infrastructure sectors.

5.106 Many difficulties were encountered, however, and there are areas where improvements are needed. In the spirit of learning from experience for application in the future, some of the main findings and lessons are summarized below. These lessons are important for the highway sector but also for other infrastructure sectors as well.

5.107 ***The fragmented implementation pattern dominated by donor-executed projects was been reasonably successful but may be outliving its usefulness.*** The approach taken allowed projects to start up quickly, ensured that donors focused on and were in some sense accountable for specific projects, "allocated" the different projects across donors so that all priority projects were eventually covered, and minimized the burden on initially very weak capacity in MPW. There was basic coordination with respect to standards, and the existing highway system itself for the most part provided a blueprint for reconstruction investments.

5.108 However, the disadvantages of this approach are increasingly evident – in terms of high and varying costs, lack of Government leadership and ownership, reliance on temporary external capacity rather than building sustainable core government capacity, possibly making it more difficult for the Afghan contracting industry to develop, etc. Moreover, this kind of approach made more sense in an "emergency" mode of reconstructing an existing network of highways than it will for any future program of new investments that will need to be cohesive, very carefully prioritized, limited, and cost-controlled in view of resource constraints. As "lumpy" investments, major road projects are more conducive to projectized funding than is the case in many other sectors. However, Government-led prioritization and oversight, along with more harmonized approaches across donors, would yield substantial benefits.

5.109 ***Capacity constraints in MPW have not been very well-addressed by fragmented TA and project-oriented PIU arrangements.*** As in other ministries, such approaches have not been very helpful in building sustainable core government capacity. The recent agreement between MPW and donors on a program of administrative reform and capacity building in MPW demonstrates that there is shared recognition of this problem and a determination to develop sustainable core capacity in MPW.

5.110 ***There has been large variation in the unit (per-kilometer) costs of different highway reconstruction projects.*** Although such differences would appear to be to a considerable extent explained by factors beyond the control of Government, donors, or implementing agencies, part of the variation may be due to controllable factors and hence needs to be looked into further, with a view to identifying contributing factors and taking remedial actions as necessary.

5.111 ***Implementation has clearly been hampered, and costs increased, by security issues,*** to varying degrees in different parts of the country but with no region fully exempted from security problems.

5.112 ***Unit costs associated with standard road-building materials and works have been relatively high in relation to those in neighboring countries.*** This is a matter of concern because it means that the net benefit for Afghanistan's development provided by each dollar of assistance is less.

5.113 In this context, it seems clear from some examples that ***going for too rapid speed of work has substantial cost consequences for projects.*** While delays can be costly by postponing the time when economic benefits are being reaped by a project and often raising the total costs as well, trying to finish a project unrealistically rapidly also raises costs and may lead to downstream quality and maintenance problems.

MAIN RECOMMENDATIONS

5.114 A few recommendations are put forward below for consideration, based on the findings of this work and in the context of the broader themes of the Public Finance Management Review of which this forms a part.

5.115 While the requirements of the road sector are many and urgent, setting priorities is essential, particularly in view of the large spending on road reconstruction that has already occurred and the substantial maintenance requirements for highways. ***Within MPW's "prioritized" Master Plan, it will be necessary to further strictly prioritize different investments***, in line with the recommendations of the Master Plan, currently being finalized. It is extremely doubtful whether funding will be available to initiate and carry out most or all of the projects in the Master Plan, and in addition their maintenance requirements may be unaffordable.

5.116 More generally, ***it is recommended to take a very cautious approach to large new road project proposals.*** Given the reconstruction of the core national highway network that is already underway with a number of segments completed or approaching completion, it is doubtful whether large additional investments in new roads are of the highest priority for funding in the near term. Examples include the two proposed north-south highways and the proposed Herat-Chaghcharan Highway. Where basic access (with lower standards and unit costs), as opposed to the current high technical standards for key national highways, is the objective, this can also be taken into account.

5.117 As discussed earlier in this paper, ***meaningful prioritization of investments is possible on the basis of simple cost-benefit analysis, with traffic forecasts a key consideration.*** The difficulties and extra costs (including for security) of implementing major road projects in Afghanistan, evident from the experience with the ongoing rehabilitation investment program, need to be taken fully into account on the cost side of the equation. While road investments often carry very high economic returns, this depends in particular on traffic development, which needs to be reviewed carefully with respect to the major road project proposals, as the existence of alternative routes (albeit longer in terms of distance) can have a considerable impact on whether a major road project generates increased traffic overall or diverts existing traffic from other routes. The latter will result in some net benefits in terms of faster travel times and lower costs, but these will be smaller than in the case of new traffic as the diverted traffic does have an alternative, already in use.

5.118 ***Maintenance of reconstructed highways needs to be given top priority for funding.*** The economic returns to maintaining existing roads carrying substantial traffic invariably are high, as can be ascertained through cost-benefit analysis. Moreover, adequate maintenance is essential for the full economic benefits of the highway investments already made to be achieved. Thus there should be adequate provisions for highway maintenance in Afghanistan's annual budget.

5.119 In this context, ***revenue sources that roughly correspond to the main beneficiaries of highways should be developed.*** Examples include tolls, fuel tax, and vehicle levies. These kinds of instruments constitute an appropriate form of "cost recovery" from highway users, but should not be segregated from other revenues or put in a "road fund", for which the conditions are not right in Afghanistan.

5.120 ***The role of the Afghan private sector in both maintenance and construction needs to be nurtured and developed,*** through ensuring that there are at least some opportunities for Afghan firms to credibly bid on contracts and subcontracts, improving the enabling environment and business climate more generally, and providing capacity building support as necessary.

5.121 By the same token, ***substantial, permanent involvement by MPW or other public entities directly in road maintenance or construction should be discouraged.*** This would go against the general direction of Government policy in favor of private sector-led development, reduce the space for private sector activities, distort MPW's role from a policy, planning, and regulatory body to one directly involved in providing construction and maintenance services, etc. Maintaining some emergency maintenance capacity would be justified.

5.122 Although difficult, ***measures to prevent excessive wear-and-tear on roads from overloaded trucks need to be explored and developed.*** Otherwise road deterioration will be more rapid, and maintenance costs higher. Some regulations are on the books, with enforcement vested with the Ministry of Interior, but as is often the case in other nearby countries, these are observed in the breach.

5.123 Finally, ***sustainable core capacity building in MPW is essential.*** This calls for a program of capacity development as part of the Government's public administration reform program, around which donors should cohere. As indicated earlier, capacity development in MPW should focus on planning, financial management, regulation, and contracting rather than directly providing road construction or maintenance services.

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