

Pakistan
North West Frontier Province and Federally Administered Tribal Areas

PRELIMINARY DAMAGE AND NEEDS ASSESSMENT
Immediate Restoration and Medium Term Reconstruction in
Crisis Affected Areas

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and
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CURRENCY AND EQUIVALENTS

Currency Unit = Pakistan Rupee
US\$1 = PKR 80

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AHQ	Agency Headquarter
AI	Artificial Insemination
ATM	Automatic Teller Machine
BHU	Basic Health Unit
C&W	Communication and Works
CERINA	Conflict Early Recovery Initial Needs Assessment
CH	Civil Hospital
CNIC	Computerized National Identity Card
CSR	Composite Schedule of Rates
DCO	District Coordination Officer
DFID	Department for International Development
DHQ	District Headquarter
DISCO	Distribution Company
DoE	Department of Education
DNA	Damage and Needs Assessment
EIAMF	Environmental Impact Assessment and Management Framework
FAO	Food and Agriculture Organization
FATA	Federally Administered Tribal Areas
FCR	Frontier Crimes Regulation
FDMA	FATA Disaster Management Authority
FHA	Frontier Highway Authority
FLCF	First Level Care Facility
GDP	Gross Domestic Product
GoNWFP	Government of North West Frontier Province
GoP	Government of Pakistan
HC	High Court
HH	Household
HIES	Household Integrated Economic Survey
HT	High Tension
IDP	Internally Displaced Persons
IED	Improvised Explosive Device
IFAD	International Fund for Agricultural Development
KVA	Kilo Volt Amperes
LG&RDD	Local Government and Rural Development Department
LGO	Local Government Ordinance
LT	Low Tension
MCH	Mother and Child Health
NADRA	National Database and Registration Authority
NATO	North Atlantic Treaty Organization
NGO	Non-Governmental Organization
NHA	National Highway Authority
NRSP	National Rural Support Program

NWFP	North West Frontier Province
O&M	Operations and Maintenance
P&D	Planning and Development
PaRRSA	Provincial Relief, Rehabilitation and Settlement Authority
PATA	Provincially Administered Tribal Areas
PCNA	Post Crisis Needs Assessment
PDMA	Provincial Disaster Management Authority
PESCO	Peshawar Electricity Supply Company
PGR	Public Grievance Redress
PHC	Peshawar High Court
PHED	Public Health Engineering Department
PKR	Pakistan Rupee
PMU	Project Management Unit
PO	Partner Organization
POS	Point of Sale
PPAF	Pakistan Poverty Alleviation Fund
PSLM	Pakistan Social and Living Standards Measurement Survey
PTDC	Pakistan Tourism Development Corporation
PW	Public Works
RHC	Rural Health Center
ROZ	Reconstruction Opportunity Zone
SAFRON	Ministry of States and Frontier Regions
SCCI	Sarhad Chamber of Commerce and Industry
SCP	Supreme Court of Pakistan
SME	Small and Medium Enterprise
SMEDA	SME Development Authority
SNGPL	Sui Northern Gas Pipelines Limited
SOC	Strategic Oversight Council
SP	Social Protection
SPDC	Social Policy and Development Center
SSG	Special Support Group
STG	Secondary Transmission and Grid
TA	Technical Assistance
TESCO	Tribal Area Electricity Supply Company
THQ	Tehsil Headquarter
TMA	Tehsil Municipal Administration
UC	Union Council
UN	United Nations
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WAPDA	Water and Power Development Authority
W&S	Water and Sanitation
W&SD	Works and Services Department
WATSAN	Water and Sanitation
WB	World Bank
WTO	World Trade Organization

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PREFACE

1. At the request of the Government of Pakistan (GoP), a team of experts led by the Asian Development Bank (ADB) and the World Bank (WB) conducted a preliminary Damage and Needs Assessment (DNA) of the districts of Buner, Lower and Upper Dir, Shangla, and Swat in the North West Frontier Province (NWFP) along with two tribal agencies of Bajaur and Mohmand in the Federally Administered Tribal Areas (FATA) of Pakistan. The DNA was carried out in close coordination with the government, development partners, civil society, and other stakeholders active in the affected area.
2. The DNA estimated the damage and reconstruction costs resulting from the crisis. The DNA provides an assessment of the related economic implications and indirect losses incurred, particularly in agriculture and private sectors, for the immediate to medium-term reconstruction and recovery phases. The DNA also assesses the institutional capacities of the various sectors to undertake the recommended reconstruction activities and provides guidance on the scope and timeline of the immediate to medium term reconstruction needed for each sector.
3. The DNA was led by ADB and WB. The team was facilitated by the Economic Affairs Division of the Federal Government, Provincial Relief, Rehabilitation and Settlement Authority (PaRRSA) and the Special Support Group (SSG). Experts from the UN Food and Agriculture Organization (FAO) assisted in the preparation of the agriculture section of the exercise. In addition, consultations were held with a core group of donor agencies including the Department for International Development (DFID), the European Union, Japan International Cooperation Agency, UN, and the United States Agency for International Development (USAID). In view of the limited access to affected areas for verification, local Partner Organizations of ADB supported projects and the Pakistan Poverty Alleviation Fund (PPAF) working in these areas provided sample based independent validation of information collected from various sources. Samples were also validated by the DNA teams where field access was possible.
4. The DNA team also closely coordinated with the United Nations's team on its Conflict Early Recovery Initial Needs Assessment (CERINA) which focuses on basic needs and restoration of essential services. The DNA recommendations are intended for immediate to medium term recovery and reconstruction needs in the crisis affected areas of NWFP and FATA. However, these are not enough for identifying measures to reduce the risks of crisis relapse. For this purpose, a comprehensive Post Crisis Needs Assessment (PCNA) in the affected areas is being undertaken to develop a crisis risk management framework that will also harmonize the DNA recommendations with the medium to long-term development needs of the affected areas to reduce the likelihood of similar crises recurring in the future.
5. The DNA is part of, and aligned to, the 3-stage PCNA framework for incremental crisis recovery - focusing on immediate service delivery-related infrastructure reconstruction and livelihoods restoration needs, short of addressing pre-crisis developmental deficits which will be addressed through the PCNA. The rapid implementation of the DNA and CERINA is being considered crucial towards triggering conditions conducive for immediate crisis recovery and for the prevention of crisis relapse in the transitional period.

EXECUTIVE SUMMARY

Background

1. The North West frontier region of Pakistan has historically held a strategic importance as the gateway between Central Asia, the Middle East and the vast plains of the Indian subcontinent. The region presents the considerable challenges of arduous mountainous terrain with equally difficult access. Tribalism is deeply rooted in the region. The post 9/11 war on terrorism is viewed by many as a struggle not against any single nation but against the group(s) of fundamentalist militants – skilled in asymmetric combat maneuvers and guerilla tactics. The center of this war has been localized in the remote mountains and valleys of Pakistan's northwest frontier region including the tribal belt of Federally Administered Tribal Areas (FATA). While aspiring to achieve long-term sustained peace and development, the war on terrorism has also triggered a range of geopolitical fallouts including the gradual deterioration of the law and order situation in the region.

Government's Response

2. The GoP initially attempted to contain the militants through dialogue and negotiations. After these attempts failed, a military operation was launched in early 2009 with the consensus of the political, administrative and military leadership. This operation caused an internal migration of colossal proportions from the embattled areas, with an estimated two million people becoming internally displaced as a result of crisis. While the operation is seen as well-intentioned, it has imposed an immense cost on the local economy as large numbers of people have been forced to leave their homes and livelihoods while considerable damage has been caused to physical and social infrastructure.

3. The ensuing fighting between the military and the militants also caused many deaths, injuries, and damages to private and public property. Houses, standing crops, livestock, schools, health facilities, water supply/irrigation schemes, public office buildings, roads, electricity/gas networks, shops, hotels, businesses, all suffered damage to varying degrees. While the military action reestablished the Government's control in the region over a relatively short period of time, there are still pockets of militant resistance. In July 2009 the GoP lifted restrictions on the return of the internally displaced persons (IDPs), as a first step to boost confidence among residents. The Government also initiated an early recovery process, in particular to address the IDP needs, but also to reestablish its administrative control in the affected settled districts that are progressively and slowly recovering from major crisis.

4. The government has moved quickly to address all aspects and consequences of the crisis on hand. The relief efforts have included rescue efforts and distribution of relief goods including tents, blankets, food, water, etc., among the IDPs. The Government is also facilitating the return of IDPs by providing cash grants, transport, and basic food requirements until December 2009.

The Damage Needs Assessment

5. In April 2009, the Government of Pakistan requested International Financial Institutions including the World Bank and the Asian Development Bank to launch and lead a rapid Damage and Needs Assessment (DNA) for medium to long term recovery in the five crisis affected districts of NWFP and two tribal agencies of FATA. The strategic objective of carrying out and implementing the DNA is to help create conducive conditions for immediate recovery and rehabilitation in the most severely crisis-hit areas of NWFP and FATA, including the return and resettlement of IDPs. The broad scope of work of the DNA includes: (a) quantification and validation of physical damages caused by the crisis; (b) development of sector level strategies for the immediate restoration of (public and private) infrastructure, services, and livelihoods, and; (c) quantification of corresponding needs in respect of the immediate reconstruction and rehabilitation of critical damaged infrastructure and services and the restoration of livelihood opportunities.

6. In view of the complex nature of the crisis and in order to comprehensively address the root causes of the crisis the Government has also requested the assistance of the World Bank (WB) and the Asian Development Bank (ADB) in leading a systematic Post Crisis Needs Assessment (PCNA). The PCNA will cover the immediate post crisis transition and stabilization phase, medium term transformation, as well as the longer-term institution building, consolidation and development periods. While the PCNA exercise is already underway separately, the DNA is deemed to be part of, and aligned to, the 3-stage PCNA framework for incremental crisis recovery.

7. The DNA used primary inventory-based and selective percentage-based post-crisis damage data provided by the Government of NWFP and the FATA Secretariat with the coordination of the Provincial Relief, Rehabilitation and Settlement Authority (PaRRSA). Analytical and physical validation of data has been done by WB-ADB teams, employing various techniques (such as relative-to-baseline analyses, disaggregated analysis at various levels, comparison of data across horizontal and vertical data streams), validation through site visits, project-based field resources and civil society organizations. Furthermore, cross-cutting principles and broad sector strategies for reconstruction applicable to each sector – based on policy parameters laid down by the Government – have been developed and recommended. Assessment and quantification of recovery and reconstruction needs in each sector are based on policy parameters and sector strategies agreed upon during discussions with the NWFP Government and FATA Secretariat. For Agriculture, Housing, Social Protection, and Private Sector, the DNA teams considered various reconstruction scenarios and relevant options. The preferred options presented in this report are based on the guidance provided to the GoNWFP by the Strategic Oversight Council in its meeting on October 9, 2009. The same were communicated to the DNA Team on November 9, 2009.

8. The total estimated cost of immediate reconstruction and recovery is US \$1,087 million for the five NWFP districts and two FATA agencies. The sectors covered have been broadly classified as:

- Social Sectors (Livelihood and Social Protection, Housing, Education, Health, and Environment);
- Physical Infrastructure (Transport, Water and Sanitation, Energy, and Governance Infrastructure); and
- Productive Sectors (Private Sector, Agriculture, Livestock, and Irrigation).

9. The highlights of the DNA findings are:

- 79% of the total estimated early reconstruction needs are for the five NWFP districts and the remaining 21% are for the two FATA agencies.
- Social Sectors have the highest total needs of US \$361 million which is 33% of the total estimated needs followed by Productive Sectors, US \$296 million (25%). The reconstruction needs for Physical Infrastructure are estimated to be US \$273 million (26% of the total).
- Within the Social Sectors, the estimated needs for Livelihood/Social Protection and Housing are US \$192 million and US \$82 million respectively.
- In the Physical Infrastructure, the bulk of the total needs of US \$273 million are for the Transport sector (US \$246 million).
- As for the Productive Sectors, US \$284 million out of a total of estimated needs of US \$296 million are for Agriculture, Livestock, and Irrigation.

10. The following *Table 1* provides a summary of the estimated cost for each sector for the five districts of NWFP and two agencies of FATA.

Table 1: Preliminary Estimates of Sectoral Needs

Sector	Overall (NWFP + FATA)		NWFP		FATA	
	PKR (M)	US\$ (M)	PKR (M)	US\$ (M)	PKR (M)	US\$ (M)
Social Sectors						
Livelihood & Social Protection	15,360	192	12,288	154	3,072	38
Housing	6,580	82	3,539	44.5	3,042	37.5
Education	5,436	68	4,772	60	645	8.1
Health	1,527	19	942	12	585	7.3
Physical Infrastructure						
Transport	19,651	246	15,602	195	4,049	51
Water and Sanitation	313	4	248	3.1	65	0.9
Energy	1,866	23	1,569	19.6	297	3.7
Productive Sectors						
Private Sector	917	12	772	10	146	2
Agriculture, Livestock & Irrigation	22,681	284	18,145	227	4,536	57
Cross Cutting Themes						
Environment	4,800	60	4,574	57	240	3.0
Governance	7,787	97	6,230	78	1,557	19
Grand Total	86,918	1,087	68,681	860.2	18,234	227.5

Exchange Rate 1 US\$ = PKR 80

Pakistan, NWFP and FATA
PRELIMINARY DAMAGE AND NEEDS ASSESSMENT
November, 2009

BACKGROUND OF THE CRISIS

Overview:

1. The North West frontier region of Pakistan has historically held a strategic importance as the gateway between Central Asia, the Middle East and the vast plains of the Indian subcontinent. The region presents the challenges of arduous mountainous terrain with equally difficult access. Tribalism is deeply rooted in the region. During the last two hundred years of colonialism, the region became a buffer zone in the struggle between global powers in Central Asia to the North and the Asian Sub-Continent to the South. The post 9/11 war against terrorism that started in Afghanistan has also been localized in this region. The militants warring with NATO forces in Afghanistan were pushed into the North West frontier and found an environment conducive to try to establish themselves as a local power in collaboration with indigenous ideological partners. Over time, militant groups pushed further east across the settled districts of North West Frontier Province (NWFP) into Swat. While aspiring to achieve a long-term sustained peace and development, the war on terrorism has also triggered a range of geopolitical fallouts including gradual deterioration of the law and order situation in the region.

2. A large population in NWFP is concentrated around the poverty line and the local economy has been performing below its potential due to various geopolitical and developmental constraints in the region. A majority of the population derives its sustenance from agriculture and related subsistence-level exploitation of natural resources¹.

Government's Response

3. The Government of Pakistan initially attempted to contain the militants through dialogue and negotiations. After these attempts failed, a military operation was launched in early 2009 with the consensus of the political, administrative and military leadership. This operation caused an internal migration of colossal proportions from the embattled areas, with an estimated 2 million people becoming internally displaced as a result of crisis. While the operation is seen as well-intentioned, it has imposed an immense cost on the local economy as large numbers of people have been forced to leave their homes and livelihoods and considerable damage has been caused to physical and social infrastructure.

4. The ensuing fighting between the military and the militants also caused loss of lives, injuries, and damages to private and public property. Houses, standing crops, livestock, schools, health facilities, water supply/irrigation schemes, public office buildings, roads, electricity/gas networks, shops, hotels, businesses, all suffered damages to varying degrees. While the military action reestablished the Government's control in the region over a relatively short period of time, there are still pockets where the militants are holding back. In July, 2009, the Government lifted restrictions on the return of the internally displaced persons (IDPs), as a first step to boost confidence among residents. The Government has initiated an early recovery process, in particular to address the IDP needs, but also to reestablish its administrative control in the affected settled districts that are progressively and slowly recovering from major crisis.

5. The government has moved quickly to address all aspects and consequences of the crisis on hand. The relief efforts have included rescue efforts and distribution of relief goods including tents, blankets, food, water, etc., among the IDPs. The Government is providing a sum of Rs. 25,000 (approximately US

¹ The NWFP Economic Report, 2005

\$312) per household/family of the IDPs as an immediate relief measure. The Government is facilitating the return of IDPs by providing transport. Basic food requirements for all affected families including the returning IDPs will be provided by the Government until December 2009.

6. A number of UN agencies and international and local NGOs have been contributing to relief efforts being coordinated by the Provincial Relief, Rehabilitation and Settlement Authority (PaRRSA).

7. In view of the complex nature of the crisis and in order to comprehensively address the root causes of the crisis the Government has also requested the assistance of the World Bank and the Asian Development Bank (ADB) in leading a systematic Post Crisis Needs Assessment (PCNA). The PCNA will cover the immediate post crisis transition and stabilization phase, medium term transformation, as well as the longer-term institution building, consolidation and development periods. The exercise of launching the PCNA is already underway separately.

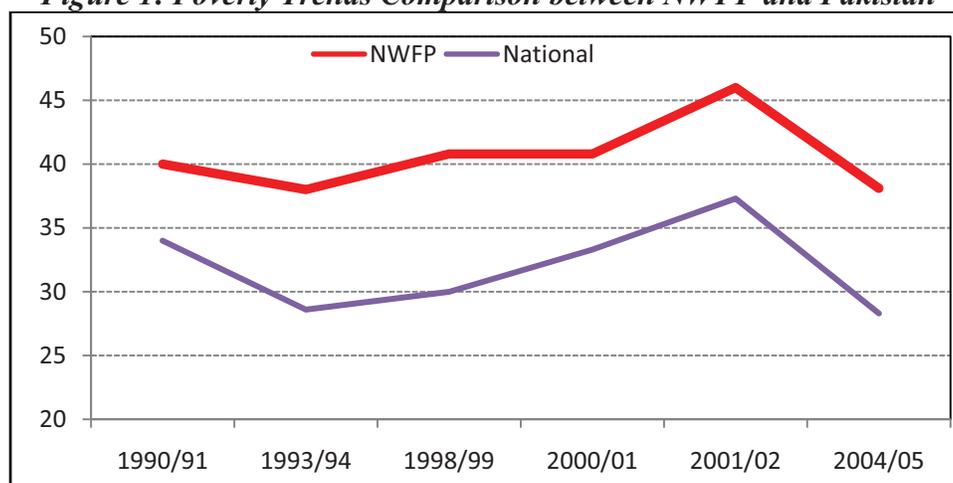
8. In response to the Government's request for an estimate of damages and recommendations for immediate and medium term reconstruction, the Asian Development Bank (ADB) and the World Bank (WB) jointly carried out a preliminary Damage and Needs Assessment (DNA). The DNA estimates the cost of immediate reconstruction needs in the five districts of Buner, Lower and Upper Dir, Shangla, and Swat in NWFP along with two tribal agencies of Bajaur and Mohmand in FATA. The objective of DNA was to create conducive conditions for crisis recovery and prevention of crisis relapses in the affected areas, and particularly for the return, rehabilitation and resettlement of IDPs. For Agriculture, Housing, Social Protection, and Private Sector, the DNA teams developed and considered various reconstruction scenarios and relevant options. The preferred options presented here are based on the guidelines approved by the GoNWFP in a meeting of Strategic Oversight Council (SOC) on October 9, 2009 and subsequently communicated to the DNA Team on November 9, 2009.

CONDITIONS IN AFFECTED AREAS BEFORE THE CRISIS

The Local Economy:

9. NWFP is the third largest province of Pakistan, both in terms of population and its contribution to national economy. Constituting 10% of Pakistan's landmass and 13% of the national population, the NWFP economy comprises 10% of Pakistan GDP. However it is generally believed that most of the province's economic potential remains unexploited. This reflects the inherent weaknesses of the provincial economy, including its frail private sector and distance from the sea, making transportation of goods and services from and to the province more expensive. Agriculture is the dominant sector, absorbing 42% of all employment generated in the province, with most sectoral activity originating from holders of small farms of less than five acres. Other key employment sectors are services (22%), construction (14%) and trade and commerce (9%). Over the past three decades, economic activity in the province has been severely impaired by the political and security situation in the Federally Administered Tribal Areas (FATA) agencies and from across the border in neighboring Afghanistan.

Figure 1: Poverty Trends Comparison between NWFP and Pakistan



Source: Data derived from Development Statistics for NWFP and FATA

10. The agencies that make up FATA are amongst the most underdeveloped regions of the country. Industry and commerce are limited and confined mainly to small-scale activity and thus unable to provide sufficient employment or growth. As a result, FATA has the highest incidence of rural poverty in Pakistan. The FATA region has also borne the brunt of episodic military activity that has been ongoing in neighboring Afghanistan over the past three decades. Continued violence has not only impacted the already marginal economy of the region, but has also had strong impact on local polity and social norms.

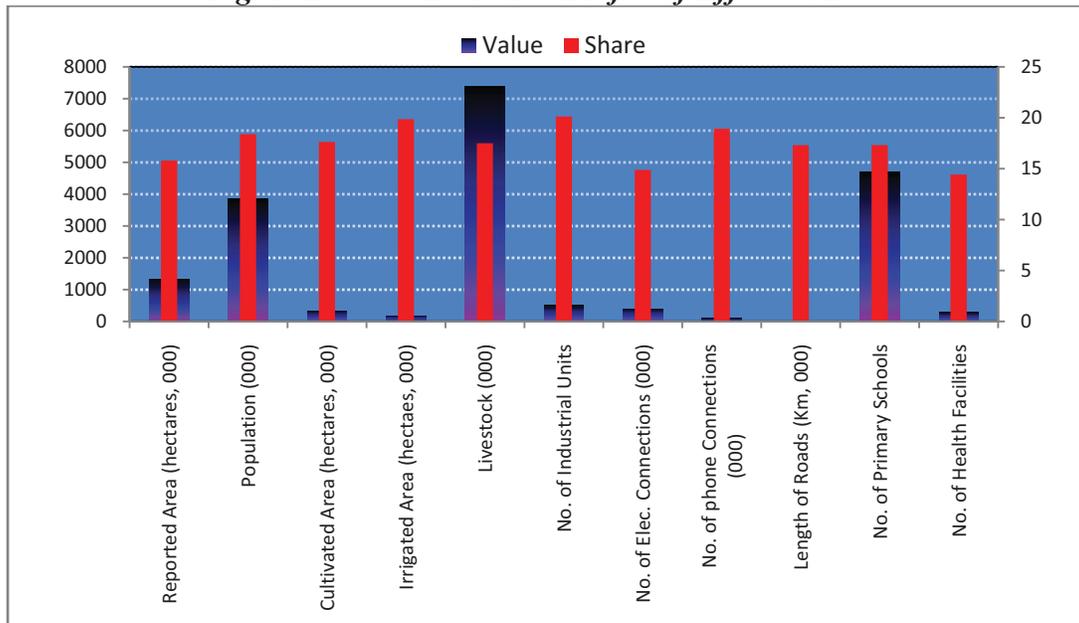
Socio-Economic Impacts of Crisis:

11. Overflow of crisis from Afghanistan into NWFP's settled areas has made the economic situation much worse, with private investors pulling out of the province. Meanwhile, the resource strapped provincial government continues to struggle to cover the additional cost imposed by militancy and crisis. The province is unable to foster the confidence of the private sector through catalytic investments. Military action by the Pakistan Army to curb the extremist elements in some parts of NWFP and FATA has only further imposed a huge transitional cost on the regional economy due to the large numbers of people forced to leave their homes. Considerable damage caused to economic, physical and social

infrastructure has only further exacerbated the socio-economic consequences of the crisis in the affected areas of districts Buner, Lower and Upper Dir, Shangla and Swat in NWFP and Bajaur and Mohmand agencies of FATA.

12. These areas constitute about 15% of the combined area of NWFP and FATA and are collectively home to 18% of the population of the North West frontier region. Most of these areas are economically underdeveloped, with the exception of the districts of Swat, and to a lesser extent, Buner. It is solely because of these two districts that over 50% of the cultivated area in the affected region (which constitute only 20% of the cultivated area of the province), is irrigated. Overall, agriculture is the main source of income in these areas, as they provide about one-fourth of wheat, one-third of maize and one-half of barley produced in the province. While about one-fifth of all industrial units in NWFP are located in these affected areas, these units are generally small and employ only 15% of the industrial labor force of the province. Moreover, 17% of the NWFP’s road network is located in the affected areas (see Figure 2 below). The social infrastructure too is poor with about 4,700 of province’s 27,000 primary schools located in these districts. Yet enrollment is significant as these schools accommodate over 20% of province’s primary school going children.

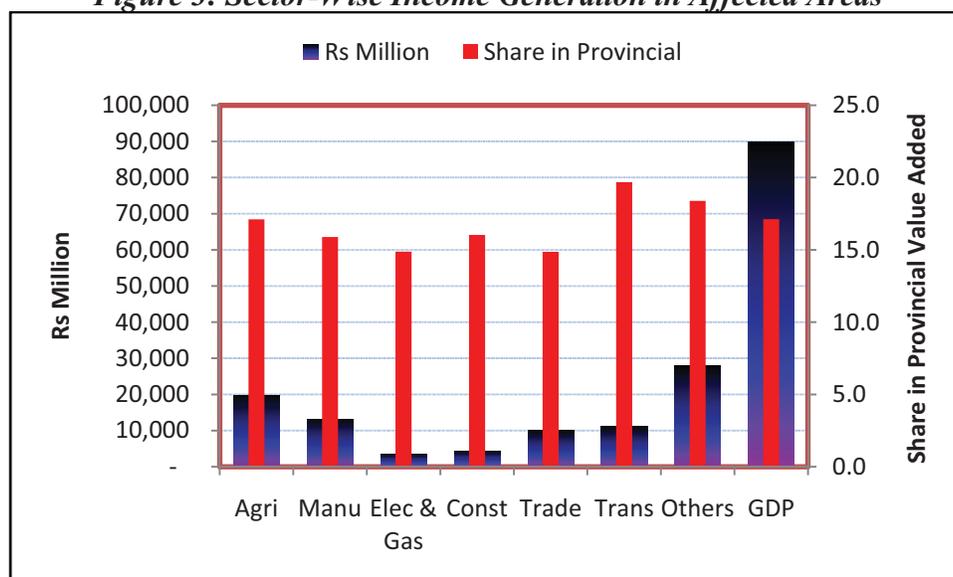
Figure 2: Socio-Economic Profile of Affected Areas



Source: Data derived from Development Statistics for NWFP and FATA

13. These affected areas have been generating about 17% of total income in NWFP (including FATA) and contributing about 17 percent of overall provincial value-added in agriculture, 16 percent in manufacturing, 15 percent in electricity and gas distribution and 20 percent of value added produced in the transport and communication sectors of the provincial economy. For most other sectors, while the rupee value of income is low, they still comprise a significant share of sectoral income of the province (see Figure 3 below).

Figure 3: Sector-Wise Income Generation in Affected Areas



Source: Data derived from Development Statistics for NWFP and FATA

THE PRELIMINARY DAMAGE AND NEEDS ASSESSMENT

14. In response to the Government’s request for an estimate of damages and recommendations for immediate and medium term reconstruction, ADB and WB jointly carried out a preliminary Damage and Needs Assessment (DNA). The DNA estimated the cost of immediate reconstruction needs in the most severely affected areas. The geographical scope of DNA covered the five districts of Buner, Lower and Upper Dir, Shangla, and Swat in the NWFP along with the two agencies of Bajaur and Mohmand in FATA.

15. The strategic objective of the DNA was *to create conducive conditions for immediate recovery and rehabilitation in the most severely crisis-affected areas of NWFP and FATA*. The DNA provides sector level strategies for the immediate restoration of (public and private) infrastructure, services, and livelihoods in the affected areas.

16. The DNA provides the assessment and quantification of recovery and reconstruction needs in each sector based on agreed policy parameters and sector strategies agreed during discussions with the NWFP Government and FATA Secretariat. The information for the DNA was partially based on primary inventory data as well as selective percentage-based data on post-crisis damage. The key source of information has been the Government of NWFP and the FATA Secretariat whereas analytical and physical validation of selected information has been done through selective site visits, civil society organizations and project-based field teams working in the affected districts. As the crisis situation has been evolving since the start of military operations, the DNA adopted a ring-binder approach to the reconstruction needs assessment. This is essentially to ensure that as the crisis further evolves, the Government can extend the assessment to other areas using this DNA methodology.

DAMAGE AND NEEDS ASSESSMENT METHODOLOGY

Division of Sector Clusters:

17. At the time of initiating this DNA, the following sectors were included in the scope of the exercise in addition to the cross-cutting areas of environment and governance:

- Social Infrastructure (Education, Health, Housing, and Social Protection and Livelihoods,)
- Productive Infrastructure (Agriculture, Livestock and Irrigation, and Private Sector)
- Physical Infrastructure (Energy, Transport, and Water Supply and Sanitation)

18. In addition to direct losses incurred by human population and settlements, the crisis has also resulted in adverse environmental impact. Given the environmental costs emanating from this crisis, it was important to address environmental rehabilitation as a cross-cutting focus in the DNA.

19. Similarly, recognising that most of the reconstruction needs identified in the above sectors will require a strong delivery capacity from within the implementing agencies and some semblance of normalcy, governance has been added as a cross-cutting support sector with a set of recommendations for enabling the reconstruction process.

Data Collection and Validation:

20. The data requirements for the preliminary DNA were fulfilled through several ways. Primarily, information on damage assessment was provided by the Government of NWFP and the FATA Secretariat.

21. Data validation was carried out through triangulation of techniques such as relative-to-baseline analyses, disaggregated analyses at various levels, and comparison of data across horizontal and vertical data streams. Limited level of physical validation of damage data through sampled-based verification by the DNA team from civil society partner organizations and in some areas through the ADB's project-based field resources was also carried out. The DNA team assessed the recovery and reconstruction needs for each sector in order to quantify the reconstruction needs and strategies in line with the broad policy parameters as agreed in discussions with the NWFP/FATA counterparts. The detailed sectoral analyses of the DNA, as well as the reconstruction needs and strategies, were shared with the provincial government and the FATA Secretariat prior to finalization.

Constraints and Assumptions:

22. As a result of limited access to affected areas for data gathering and verification, the DNA sector teams used relative to baseline analyses where inventory based damage data was not available. In particular, the housing and private sectors damage assessment have followed this methodology to arrive at reconstruction needs under the same. In addition, where available, validity of primary data was established through use of secondary sources such as civil society and informal networks.

23. The Government's damage classification criterion for fully and partially damaged infrastructure was adopted to generate analysis of primary data. This approach was consistent across different sectors and administrative boundaries of the districts and tribal agencies.

24. Indirect losses including opportunity, employment, investment and revenue were not included in the scope of damage assessment given the lack of reliable baseline and loss data. This was particularly difficult for sectors dealing with private goods such as housing and private sector. One of the reasons for deferring calculation of indirect losses was that this analysis will be included in the detailed assessments planned under the PCNA. In addition, given the shifting geography of crisis and the nature of economic and opportunity losses over a prolonged period of time during and after the crisis, it is necessary to

design context specific strategies that are based on post-crisis scenarios rather than observed or perceived damages.

25. Due to the emerging geographical spread of the crisis situation and to facilitate focused scope for the DNA implementation, any damages that may have occurred beyond the cut-off dates of September 2009 were not accounted for as part of this DNA. It was agreed in consultation with the Government that damages incurred after September 2009 in the geographic area covered and/or outside the scope can be taken up separately by government using the assessment model generated for the DNA.

26. An important aspect of estimating reconstruction needs was inclusion of security premiums. The security risk premiums were not factored in the final cost estimates with the understanding that these may be added based on government's decision for implementation planning and resource allocation.

27. The DNA estimates formulated for certain sectors were based on context specific proxy indicators and assumptions and analytical techniques. For instance, number of shops was calculated as a ratio of housing; baselines for housing were projected from the 1998 census; and livestock restocking needs were computed from various compensation options. These approaches were discussed with and agreed by the Government.

GUIDING PRINCIPLES OF THE NEEDS ASSESSMENT AND RECOVERY STRATEGY

28. The sectoral assessments under the DNA are driven by the following guiding principles for planning and implementing reconstruction needs:

- ***Incremental Recovery*** – the DNA is aligned with the three phases of the PCNA framework agreed with the Government for achieving incremental crisis recovery. It focuses on immediate service delivery-related infrastructure reconstruction, and livelihoods restoration needs as these relate to the immediate requirements of the returning IDP population. The intention is to create conditions conducive to immediate recovery through prevention of the crisis relapse in the transitional period preceding a medium to long-term development program.
- ***Regeneration of Livelihoods*** – the reconstruction needs in crisis situations demand strategies that are remarkably different from reconstruction needs arising out of natural disasters. Some of the medium term challenges include the revitalization of the local economy through revival of production, trade and creation of income and employment opportunities in support of people's own initiatives. The DNA therefore, considered livelihoods opportunities as a special area of intervention, giving special attention to the needs of the most vulnerable and socially disadvantaged groups through focused income support programs.
- ***Addressing Reconstruction Capacities*** – the DNA included immediate capacity building interventions required for restoring capacities to manage sector-level recovery processes. This also inherently promotes using existing implementation agencies and adopting participatory decision-making on plans, design and implementation at the grassroots level to ensure community ownership and empowerment, and to ensure solutions are locally appropriate.
- ***Build-Back-Better*** – the DNA findings and reconstruction needs included promoting build-back-better solutions to immediate infrastructure and service delivery recovery improvement in specifications but not scope. However, addressing the pre-crisis development deficits is beyond the scope of the DNA and will be addressed through the PCNA.
- ***Consistency of Strategic Approach*** – the reconstruction strategies recommended ensure consistency of strategic approach and implementation between the DNA and the CERINA in

order to specifically identify activities likely to overlap in the transitional period, as well as those that will inform the PCNA assessment and implementation phases.

SECTORAL FINDINGS AND RECOMMENDED RECONSTRUCTION STRATEGIES

SOCIAL INFRASTRUCTURE

Education

29. **(a) Damages:** The total estimated cost of the damage caused to education sector in the five districts of Buner, Upper and Lower Dir, Shangla, and Swat in NWFP as well as the two tribal agencies of Bajaur and Mohmand in FATA is Rs. 3,040.5 million (US\$38 million). Information for damage assessment was mainly provided by the Department of Education (DoE), and the Works and Services Department (W&SD) for the NWFP. The cost of damage has been worked out using NWFP's current prices given in the composite schedule of rates (CSR). Estimated cost of damage included Rs. 1,814.50 million for completely damaged and Rs. 1,226 million for partially damaged educational facilities in the affected areas. Of the total damage estimate Rs 2,696 million is for NWFP districts and Rs. 344.5 million for FATA agencies. In NWFP, about 8% (i.e. 427 out of 5,347) facilities, that included schools, educational residences and hostels, have been damaged; of which 237 were completely damaged and 190 were partially damaged. These included 149 completely and 66 partially damaged girls' schools. In FATA, about 6% (i.e. 64 out of 992) facilities including schools and other education facilities were reported as damaged. Of these 29 were completely damaged and 35 were partially damaged, which included 10 completely and 5 partially damaged girls' schools.

30. **(b) Recovery Needs:** The recovery needs for the education sector have been estimated at Rs. 5,436.5 million (US\$ 68 Million) including Rs. 4,772 million (US\$ 59.7 million) for the affected districts in NWFP and Rs. 644.5 million (US\$ 8.3 million) for the affected tribal agencies in FATA. The estimated costs for reconstruction and recovery needs have been worked out using composite schedule of rates (CSR) for 2009. Key issues in the education sector recovery have been identified as lack of effective education system and un-regulated *madrassas*. More importantly, getting students back in schools would be critical. Any further delay in this regard could result in high enrolment in *madrassas* as an alternative, which might cause further strengthening of extremist elements in the affected areas as direct fallout of crisis. While efforts get underway for reconstruction and rehabilitation, an immediate strategy would be to restore all damaged schools through provision of temporary structures and/or tents. In addition, re-entry and enrollments in the schools would need to be increased through providing special incentive packages for students and teachers.

Health

31. **(a) Damages:** The total damages to health sector in affected areas of NWFP and FATA are estimated at Rs. 829 million (US\$10.36 million). The damages were estimated on the basis of information provided by the provincial health departments for NWFP and FATA. The cost of damage was calculated using the 2009 CSR. The damages estimates included Rs. 551 million for completely damaged and Rs. 278 million for partially damaged health facilities in the affected areas. The cost of damages are Rs. 502 million (60%) in NWFP and Rs. 327 million (40%) in FATA. It was observed that the damage to public health facilities was not as extensive as initially feared. In NWFP, the damages reported were approximately 29% while for FATA these were 16% of the total health facilities in the affected areas. Three Civil Hospitals, four Rural Health Centers and 37 Basic Health Units were reported as partially damaged. On the other hand, nine Basic Health Units were reported as completely damaged. In addition, the smaller health units such as community health centers and civil dispensaries were also reported as having suffered minor damages.

32. **(b) Recovery Needs:** The total estimated recovery needs are Rs. 1,527 million (US\$19 million) including Rs. 942.4 million (US\$ 12 million) for NWFP and Rs. 585 million (US\$ 7 million) for FATA. These estimates for reconstruction and recovery of health related infrastructure needs were calculated

from CSR for the first quarter of 2009 available from the NWFP Government. The recovery needs for health sector included continuation of preventive and curative health services to the crisis affected population including the returning IDPs, rehabilitation and re-equipping of both partially as well as completely damaged health infrastructure, facilities for catering to the psychosocial care of the affected population, and the district health planning institutions.

Housing

33. **(a) Damages:** In the five districts and two agencies of the crises affected areas in NWFP and FATA, 11,755 housing units were completely destroyed while 11,738 were damaged to various degrees. These include 5,934 and 7,280 respectively in NWFP, and 5,821 and 4,458 respectively in FATA. The overall percentage damage to the pre-crisis housing stock in the affected parts of NWFP and FATA is around 4%, and varies within a range of 1-12%. Of all areas, the highest damage percentage has been reported for Bajaur Agency, while within NWFP, damage to housing stock seems the highest in Swat District. Moreover, of the overall damaged stock across FATA and NWFP, it appears that the damage is evenly distributed (50:50) between fully damaged and partially damaged houses.

34. With the exception of the two tribal agencies, more than three quarters of the pre-crisis housing stock in the crisis affected region constituted pucca construction. The pre-crisis baseline housing stock in the year 2009 has been projected from the 1998 housing stock, using a combined inter-censal housing growth rate of 2.045% for NWFP and FATA over 1981- 1998.

35. Primary data for assessment of housing sector damage was provided by the local governments as well as Governments of NWFP and FATA Secretariat. The precarious security situation in most parts of the crisis affected region made it difficult for the government to supply inventory-based data. Accordingly, for some districts/agencies it provided estimated percentage damage, while for others it shared estimated numbers of damaged housing units by applying these percentages to its own estimates of the baseline housing stock. Damage estimates are therefore primarily based on a 'relative to baseline' analysis, which relies as much on government-supplied data, as on reliable baseline stock estimates based on rigorous baseline analysis and rationalization.

36. This data was then corroborated with other secondary sources of information, qualified with field observations by assessment teams, and rationalized in terms of various baseline and damage scenarios. The methodology adopted for baseline and damage analysis is described in the Housing Annex.

37. **(b) Recovery Needs:** The total estimated housing reconstruction needs are Rs. 6,580 million (US\$ 82 million). This includes Rs. 3,539 million (US\$ 44.5 million) for the affected districts of NWFP and Rs. 3,042 million (US\$ 37.5 million) for the two affected tribal agencies of FATA.

38. The proposed recovery and reconstruction strategy for private housing aims at helping households transition from a state of displacement to being re-housed in permanent housing. The strategy is built around the following core principles and considerations: (a) *Building-Back-Better (BBB)* entailing the replacement of all katcha houses with pucca construction, and the replacement of all destroyed houses with multi-hazard resistant core units; (b) *Promoting Equity through Uniform Assistance Packages* that cover construction of a house corresponding with the average size of pre-crisis housing unit; (c) *Ensuring Crisis/Conflict-Sensitive Recovery* by enabling most beneficiaries to reconstruct back to the original size of the lost asset, while for many others who had significantly smaller than average houses or had katcha construction, the package would offer an opportunity for improved and safer living standards; and (d) *Homeowner-driven Reconstruction* through a cash grant-based, homeowner-driven model, whereby homeowners are made in-charge of reconstructing or repairing their houses, facilitated through cash grant support and technical assistance provided by the government.

39. The approach agreed with the GoNWFP is to provide a Uniform Assistance Package, that includes a subsidy of Rs. 400,000 (US\$ 5,000) for completely damaged and Rs. 160,000 (US\$ 2,000) for partially damaged housing units. These amounts were calculated on the basis of a 575 square feet covered area of a core unit consisting of two rooms, a bathroom, and a kitchen, and using a rate of approximately Rs.700 per square foot. This covered area is based on the average size of a house across the affected region, as stated in the 1998 Census Reports. The per square foot cost of construction was calculated using the average cost for various construction options, including brick, stone, and block masonry – while employing current rates of basic construction inputs in the region. This approach would have the benefit of empowering the affected home-owners to individually decide upon their preferred construction option (stone/block/brick masonry). Moreover, the construction rate has been suitably adjusted to allow construction of housing stock to better standards and incorporating hazard resistant features.

Social Protection and Livelihoods

40. **(a) Damages:** The social protection related damages were considered as having directly resulted from the crisis as large numbers of people became displaced with little or no livelihood means remaining intact. The recovery and rehabilitation requires not only the provision of a continuum of public support that addresses immediate needs, facilitates and incentivizes return to their home, but also revitalization of social and economic life through the restoration of sustainable livelihoods for the returning population.

41. However, as the crisis has not completely subsided, a comprehensive damage and recovery needs assessment was not possible at the time. Poverty has always been a direct source of concern for the affected areas, persistently higher than the rest of the country. Acute poverty, in both urban and rural areas, has contributed significantly to destabilization and the proliferation of extremist elements. The main source of livelihoods in the affected districts was agriculture and related activities. In addition, the tourism industry, particularly in the Swat valley, had been the mainstay of the local economy. While some quantified data is provided in the agriculture and private sector assessments, the crisis and the resultant large scale migration has severely impacted the livelihoods of local population. As a result, immediate subsistence support enabling sustainable opportunities to build back the local livelihoods were key areas considered in the social protection analysis.

42. **(b) Recovery Needs:** The estimated cost for providing cash grants of Rs. 5,000 per month for 6 months to approximately 490,682 families will be approximately Rs. 15,360 million (US\$ 192 million). The division of proposed recovery costs between the affected areas in NWFP and FATA was calculated at a ratio of 80:20 (i.e. 80% for NWFP’s five districts and 20% for the two agencies in FATA). This calculation was consistent with similar estimates from other sectors including private sector, agriculture and livestock, and energy. The estimated recovery costs for NWFP would therefore be Rs. 12,288 million (US\$ 154 million) and for FATA Rs. 3,072 million (US\$ 38 million).

43. These cost estimates use the 2001-02 poverty statistics of NWFP as a baseline. The strategies for recovery of livelihoods and protection of the vulnerable from post-crisis impacts will transition from a relief-oriented safety net for the immediate needs to a productive and development-oriented safety net for the longer term. These interventions would facilitate the return of IDPs as well as support those who have already returned to their homes in the affected areas.

44. It is proposed that, initially, the livelihood support interventions would target all, or a defined majority, of IDPs as well as other targeted beneficiaries from the crisis-hit areas. However, subsequently, targeting would need to emphasize an incremental focus on destitute, poor and vulnerable households. For this purpose, there is no need for a distinction between IDPs and non-IDPs once the IDPs have returned home.

45. The provision of cash grants to address immediate recovery needs would be targeted at population living either in the crisis-affected areas or those who have been displaced by the crisis and meet objective poverty and vulnerability criteria. In addition, provision of a one-off compensation for property losses to all IDP households² as well as those who stayed back would serve as an added intervention. The recovery strategy also proposes a resettlement grant to all targeted IDP households conditional on proof of intention to resettle. Management of humanitarian assistance to support Government policy, i.e. minimizing any adverse incentives vis-à-vis resettlement that might arise from humanitarian assistance by international organizations or NGOs will require rigorous monitoring. In addition, monitoring of exogenous factors such as market food prices would need to be considered in evaluating effectiveness of the recovery strategies.

ECONOMIC / PRODUCTIVE INFRASTRUCTURE

Agriculture, Livestock and Irrigation

46. **(a) Damages:** The total losses of agriculture sector are estimated at Rs. 57,424 million (US\$ 692 million), of which 69% were in the form of *direct damages* of assets and stock, and 31% as *indirect losses* in production caused by the crisis. The most number of losses were incurred in the livestock sub-sector (i.e. Rs. 43,508 million or 75.8% of total agriculture sector losses reported). This was followed by sub-sector losses of crops estimated at Rs. 12,701 million (or 22.1% of total reported losses); irrigation at Rs. 1,126 million (2% of total reported losses); and fisheries at Rs. 89 million (0.2% of total reported losses).

47. The direct damages were mainly in the form of perished or lost livestock, un-harvested standing crops in the field, damaged fishery ponds, machineries, irrigation infrastructure and other Government infrastructures. The direct damage of the livestock sub-sector is estimated at Rs. 31,517 million. An estimated 600,000 large animals (cattle, buffalos, horse, and camels) and 679,000 small animals (sheep, goat, asses and donkeys), and 2.2 million heads of poultry were lost. The direct damage of the crop sector was estimated at Rs. 6,625 million, the bulk of which was in the form of un-harvested standing crops including wheat and vegetables. In the irrigation sub-sector, the direct damage was estimated at Rs. 1,126 million, and the key damage items were reported as partially damaged main canals, flood protection embankments, tube wells, and dug wells. The direct damages of the fisheries sub-sector were estimated to be around Rs. 89 million.

48. The indirect losses were mainly in the form of lost milk production which were estimated at Rs. 6,188 million and partially lost crop productions of the 2009 *Kharif* crop, and the 2009/2010 Rabi crop estimated at Rs. 6,075 million. The indirect losses were not calculated for irrigation and fisheries sub-sectors.

49. **(b) Recovery Needs:** The overall costs for early and medium-term recovery of the agriculture sector were estimated at Rs. 22,681 million (US\$ 284 million). Between NWFP and FATA, the recovery costs were calculated as Rs. 4,536 million (US\$ 57 million) and Rs. 18,145 million (US\$ 227 million) respectively.

50. The largest financial losses to the affected population were the losses caused by death and distress sales of livestock. Hence, one of the key reconstruction efforts should be restocking or rebuilding of the livestock base. Given the extent of livestock losses, their impacts on the poor and vulnerable population, as well as the financial implications for and implementation capacities of local governments, a partial restocking has been proposed in the immediate to medium term. This would include: (i) full compensation of lost animals to affected vulnerable population (such as those living below poverty lines,

² Based on the argument that this is a covariate “disaster”.

single parents, the disabled and women herders), and (ii) a compensation of 30% of lost animals to remaining affectees.

51. During restocking, the following criteria should be considered:

- A three year implementation period;
- No cash compensation and only in-kind (i.e. through provision of animals);
- Restocking of key species only (cattle, buffalo, sheep, goat, and poultry), and only with animals that are adapted to the agro-ecological zone;
- Breeding quality and productivity of procured animals should be at least the same or better than the lost animals;
- Vulnerable groups should be given priority in terms of phasing;
- Restocking should be implemented in close coordination with animal feed and vaccination support;
- During procurement, priority should be given to local purchases wherever possible; and
- Proper livestock quarantine and sanitary measures should be put in place before restocking.

52. In the crop subsector, provision of essential inputs and land preparation support to farmers for the 2009/10 Rabi season was proposed. This would require implementation on a fast track basis so that farmers do not miss the opportunity to cultivate crops on time. The emphasis should be, therefore, on inputs reaching farmers in a timely manner. The proposed restoration package of inputs would need to include fertilizer and seeds for wheat and vegetables and land preparation support. The cost of inputs support has been estimated at Rs. 1,647 million (US\$ 20 million). This would cover some 30% of the total needs of critical inputs for key crops. This support could be provided as a subsidy to purchased inputs and should be given to small and poor farmers on a preferential basis.

53. In the irrigation subsector, all damaged schemes and infrastructure identified were public investments. The time required for the rehabilitation process has been assumed to be two years, with the total cost of rehabilitation estimated at Rs. 1,121 million (US\$ 13.5 million). The rehabilitation work should be properly prioritized and phased. During the upcoming winter season, the flood protection structures and diversion bunds should be rehabilitated on a priority basis to avert further losses and damages to existing structures and *Kharif* crop. Also, during this period the high priority irrigation schemes should be restored.

Private Sector

54. **(a) Damages:** The preliminary estimates of total damages in the affected districts and the two agencies have been calculated separately for shops, industrial and business sectors, and hotels. The consolidated amount of estimated damages for these sectors was about Rs. 917 million (US\$ 11.50 million). While the total estimate for shops damages is at Rs. 396 million (US\$ 5 million); the damages for industry and businesses (small and medium enterprises) are Rs. 341 million (US\$ 4 million); and damages incurred to tourism industry are estimated at Rs. 180 million (US\$ 2 million).

55. For shops, the survey data available on damages only listed the number of shops that were damaged or destroyed during the military operation in the designated area. In the absence of sample sizes, an indirect method was used drawing on census data for employment. It was assumed that 80% of the number of self-employed and privately employed persons amongst the 'Industry Division 6' category of census data approximates the number of shops in the affected areas.

56. In addition, the damage ratios were used from the available data for damages to local housing units. Damage was assumed to be indiscriminate with a similar proportion of housing units and shops affected during the crisis with the exception of Swat, where damage to shops was estimated as twice the

corresponding value from housing data. One further assumption was made before calculating the costs for repair and reconstruction according to which 60% of the shops are assumed to be “*pukka*”. Subsequently, the average size of a shop and the predicted repair costs per unit area are used to estimate the financial assistance needed for reconstruction of shops.

57. For the industry and business sector, the damage estimates originated from information available for the power loom sector. The power loom sector has been well established in Swat due to tax advantages, skill availability and the associated benefits of a developed cluster. Data gathered on damages to this particular industry suggested that 11 out of 65 units were damaged (17% of the total units). It was assumed that the damages to other industrial units and businesses would be the same as that of the power loom sector, i.e. 17%. This rate was applied to the investment cost for the industrial and business units as provided by the Government.

58. For tourism and hotels, the data gathered indicated that about 500 hotels have been operating in the Malakand division, out of which some 60 units have been reported as damaged (12% of total hotels). The estimated damages to hotel industry were therefore based on the assumed damage ratio of 50/50 across fully and partially damaged hotels (as derived from housing sector damage trends).

59. **(b) Recovery Needs:** In the absence of reliable baseline information on the extent of private assets such as shops, the recovery needs for these were considered through a mix of subsidies and investment and/or restocking facilitation approaches.

60. The total estimated recovery costs for reconstruction of damaged private sector holdings would, therefore, be Rs. 917 million (US \$11.5 million). For NWFP this cost would be Rs. 772 million (US \$10 million) whereas for FATA agencies it would be Rs. 146 million (US \$2 million)..

PHYSICAL INFRASTRUCTURE

Energy

61. **(a) Damages:** In the energy sector, the total damages were Rs. 2,406 million (US \$ 30 million). Major damages were incurred in the power sub-sector to the immovable assets and stocks of the two distribution companies namely Peshawar Electrical Supply Company (PESCO) and Tribal Area Electrical Supply Company (TESCO) in NWFP and FATA respectively. These companies manage the electricity supply in the crisis-hit areas. The direct damages in power subsector was estimated at Rs. 769 million (US \$ 9.6 million) in NWFP whereas for FATA this was Rs. 182 million (US \$ 2.3 million) in FATA. The damages were incurred to the transmission and distribution system as well as administrative buildings.

62. The indirect losses in the energy sector were estimated to be Rs. 1,045 million (US \$ 13.1 million) in NWFP and Rs. 118 million (US \$ 1.5 million) in FATA. The indirect losses included the revenue loss of the two distribution companies during the crisis period. Another indirect loss was the relief provided by PESCO to IDP camps that included establishment of power network as well as provision of electricity to the camps. This cost of additional services amounted to Rs. 255 million (US \$ 3.2 million). The total damages in the power subsector were Rs. 2,369 million (US \$ 29.6 million). The damages in the gas subsector were insignificant and in the Swat district only at an estimated cost of Rs. 37 million (US \$ 0.5 million).

63. **(b) Recovery Needs:** The total cost of early recovery, rehabilitation and reconstruction in the energy sector was estimated at Rs. 1,866 million (US \$ 23 million). The costs for NWFP would be Rs. 1,569 million (US \$ 19.6 million) and Rs. 297 million (US \$ 3.7 million) for FATA.

64. The recovery needs in power sector are estimated at Rs. 1,599 (US \$ 20 million) of which about three-quarters of the amount would be required for the restoration of transmission and distribution systems, while the remaining will be required for rehabilitating damaged grids and related equipment as well as the administrative infrastructure (including office and residential building units). In addition, an amount of Rs. 255 million (US \$ 3.2 million) will be needed for meeting PESCO's expenditure on providing relief to the IDP camps. Since early recovery had already begun, it was suggested that the remaining process of restoration and rehabilitation should be immediately started.

65. In the Gas sub-sector, the cost of restoration was minimal, amounting to Rs. 12 million (US \$ 0.15 million). In addition to the immediate restoration of energy supply, longer-term recovery will also have to focus on measures to increase supply coverage, improve systems and exploration, and meet increasing demand through other sources of energy generation.

Transport

66. **(a) Damages:** The total damages in the transport sectors were estimated to be Rs. 804 million (US\$ 10 million). Roads were the major source of communication for passengers and freight in the crisis-hit areas. Prior to the current crisis, the road network in the five affected districts of NWFP consisted of 5,499 km of national and provincial highways, secondary and access roads. In the two agencies of FATA, there were 1,256 kms of roads prior to the crisis. For NWFP, about 42% of road network was paved while for FATA, the same stood at 62%. However, due to the deferred maintenance backlog, about three-quarters of the total roads network in NWFP was in a poor to bad condition.

67. The magnitude of damage caused by the crisis was not intense and posed only localized and minimal constraints on mobility and accessibility. These were as a result of damages incurred to bridges, cross drainage structures, retaining and slope protection structures, potholes and ditches in pavement from direct shelling or Improvised Explosive Devices (IEDs), road formation damage due to tracks of tanks and pavement damage due to temporary blockades on roads.

68. The total damage to road infrastructure stock was estimated to be around Rs. 734 million (US\$ 9 million). This comprised 60 bridges, affected road segments measuring a total of 1,628 km and the machine stock of one public corporation. The corporation also suffered revenue losses amounting to Rs. 1.5 million (US\$ 0.02 million). Similarly, the damages sustained by the aviation authority on an airport in Swat amounted to Rs. 68.45 million (US\$ 0.9 million).

69. **(b) Recovery Needs:** The total cost of recovery and reconstruction for the transport sector was estimated to be Rs. 19,651 million (US\$ 246 million). Since three-quarters of the road network in NWFP was in poor to bad condition before the crisis started, the road sector strategy will have to address not only the recovery of the damaged stock but also bringing the affected facilities to the desired standard.

70. Keeping this in view, the recovery and rehabilitation was estimated to be Rs. 3,543 million (US\$ 44 million) in FATA for a length of 299 km of road segments. For NWFP, the estimated cost would be about Rs. 11,924 million (US\$ 149 million) for 1,206 km of road segments. In addition, since two national highways (i.e. N-95 and N-90) also sustained damages, their reconstruction cost will also have to be covered, at an estimate cost of Rs. 1,169 million (US\$ 15 million) for 123 km sections out of the total 198 km of road network.

71. The reconstruction and rehabilitation of affected bridges will require Rs. 658 million (US\$ 8 million). As part of the strategy, it is also proposed to develop in-house capacity of the departments to respond in case of relapse of the crisis situation or its expansion into other areas. Such capacity needs include steel bridges, new machinery for each affected district and agency, and replacement of

stolen/damaged machinery for the public sector corporation. The costs for meeting these capacity needs are estimated at Rs. 2,256 million (US\$ 28 million).

Water Supply and Sanitation

72. **(a) Damages:** The total damage to the drinking water supply and sanitation facilities in five districts of NWFP and two agencies of FATA was estimated on the basis of information provided by the two Government agencies owning these facilities in the affected areas. The estimated cost was based on current prices as per the composite schedule of rates (CSR) of the NWFP Government for the first quarter of 2009. The total estimated damage cost was Rs. 132 million (US\$ 2 million). This included Rs 88 million (US\$ 1.1 million) for water supply and Rs. 44 million (US\$ 0.5 million) for the sanitation facilities.

73. The water supply estimates included Rs. 62 million (US\$ 0.8 million) for NWFP and Rs. 26 million (US\$ 0.3 million) for FATA. Majority of the affected water supply facilities were based on groundwater. The various types of schemes included tube-wells based pumping and distribution systems with household connections; open wells; protected springs and storage reservoirs; and hand pumps.

74. In NWFP, 451 water supply facilities were reported as damaged out of the total of 1,508. This included 111 completely damaged and 340 partially damaged systems. An estimated population of around 1 million was directly affected as a result of this damage. In FATA, 46 water supply schemes were reported damaged out of the total 358. This included three completely damaged and 43 partially damaged schemes. Damage to sanitation facilities was reported in NWFP, including partial damage to street pavement, street drains and sewerage pipes.

75. **(b) Recovery Needs:** The estimated cost for recovery needs is Rs.313.0 Million (US\$4.0 million). This includes Rs.248.08 million for NWFP and Rs.64.9 million for FATA. The NWFP needs estimate includes Rs.157.16 million for water supply and Rs.90.92 million for sanitation, whereas the FATA estimate is for water supply only as no damage to sanitation facilities was reported. The estimate for recovery needs is worked out by using CSR- 2009 for the first quarter of the NWFP Government.

76. This also implied that the estimated cost for reconstruction of damaged facilities at current prices will need to include repairs and replacement of components of partially damaged schemes, and reconstruction of fully destroyed schemes. Value addition would be possible through an overall improvement of the quality of services. Various options for value addition depending upon the type of facility, location and site conditions could include: (i) hypo-chlorinators at tube wells for improved water quality, (ii) extended coverage, (iii) improved setting of tube-wells, (iv) filtration facilities for surface water sources, and (v) water quality monitoring arrangements.

CROSS-CUTTING THEMES

Environment

77. **(a) Damages:** The environmental impacts of the crisis were classified as either direct/immediate or indirect/secondary impacts. The direct/immediate environmental impacts of the crisis included the following:

- Generation of large quantities of debris from the destroyed/damaged buildings;
- Landslides and land slips caused by shelling/bombing;
- Damage to forests and rangelands caused by militants and the military operation, as well as the Department's limited oversight capacity and restricted mobility in the crisis period;
- Damage to wildlife habitats and protected areas caused by the fighting during the crisis;
- Damage to the private and government-owned fisheries.

78. In addition, the crisis had also resulted in the loss of or damage to the physical infrastructure of the Forest and Wildlife departments, timber stock held by the Forest Departments, and the Forest Department's and private forest nurseries.

79. The indirect/secondary impacts of the crisis were considered as:

- Water contamination caused by disposal of debris and other wastes in the water bodies;
- Public health issues caused by consumption of contaminated water;
- Loss of natural resource-based livelihoods of the local population;
- Landslides due to deforestation caused by the crisis;
- Loss of wildlife caused by deforestation;
- Higher turbidity in water bodies caused by debris disposal, thus causing increased water temperature and decreased dissolved oxygen in water, in turn causing loss of aquatic life;
- Rangeland degradation due to uncontrolled grazing;
- Deforestation that could be caused by the reconstruction activities;
- Enhanced stone quarrying for reconstruction activities; and
- Disruption of environmental/ecological services – such as providing carbon sink, soil binding, moisture retention, and recharging water springs – provided by the forests.

80. Early estimates were derived from the above-described direct impacts of the crisis; however these estimates were mostly based upon anecdotal accounts, and therefore not very reliable. Most of the forests in the crisis area remained inaccessible because of the existence of militants or military. No estimates could, therefore, be derived for the remaining direct impacts or indirect damages.

81. **(b) Recovery Needs:** The Environmental Impact Assessment and Management Framework (EIAMF) will need to be prepared to minimize if not eliminate the negative environmental impacts of the reconstruction and rehabilitation activities planned for other sectors. This EIAMF should be used as a guidance tool for undertaking environmental impact assessments for all reconstruction activities to ensure that the appropriate mitigation measures are included in the design and construction phases of the projects.

82. The estimates for conducting the environment and ecological studies and preparing the EIAMF were estimated at Rs. 4,800 million (US\$ 60 million). This includes initial estimates for the restoration of forests, rangelands, fisheries and the relevant departments' physical infrastructure. The division of costs between NWFP and FATA were estimated as Rs. 4,574 million (US\$ 57 million) and Rs. 240 million (US\$ 3 million) respectively.

Governance

83. To restore and rehabilitate the NWFP and FATA civil administration and law enforcement agencies to the 'pre-crisis' state with some improvement to cater to the special circumstances, the DNA estimates a cost of Rs. 7,787 (US \$97.3 million). For infrastructure reconstruction and rehabilitation, the DNA has adopted a 'build back better' approach, whereby, the same infrastructure will be restored to an improved specification. To prevent a crisis relapse, activities such as capacity building, strengthening public grievance redress (PGR) mechanisms or the appointment of additional staff have been included in the cost. The table below sets out the estimated costs for each activity.

Table 2: Governance – Estimated Costs for Each Activity

Sectors	NWFP (PKR million)	FATA (PKR million)
Security identities and entitlements	36	14
Ensuring security	1 942	1 638
Strengthening justice and rule of law	1 297	146
Strengthening civil administration	2 386	15
Engaging political representatives and local communities	18	18
Implementing reconstruction and rehabilitation	186	91
Sub-totals	5 865	1 922
Grand total [US\$ 1= PKR 80]	7 787 [US\$ 97.3 million]	

84. *Strengthening identity and security*: To secure the rights of the affected people, Computerized National Identity Cards (CNIC) will be provided to those without them and replacements provided where CNICs have been lost. Particular focus will be attached to the FATA and Provincially Administered Tribal Areas (PATA), simplifying processes, and supporting vulnerable groups including women, injured and children. The police Elite Force in NWFP and the Levies Force are being enhanced to improve law and order in the interim period till a more comprehensive solution is agreed during the PCNA. Training and revised service structures will be provided to better equip and incentivize the law enforcement agencies. Secure police stations, *chowkis*, office and residential buildings and infrastructure will be constructed and necessary equipment provided.

85. *Strengthening justice and rule of law*: Technical assistance (TA) will be needed by the Ministry of States and Frontier Regions, Peshawar High Court and FATA Civil Secretariat to identify the judicial challenges arising from the crisis and to support formal and informal dispute resolution. In NWFP, courts and complexes need to be restored, and judges trained to address local judicial needs more effectively. In the short term, the recently created FATA Tribunal will need to be operationalized to hear appeals from the Political Agents' judicial pronouncements. District and TMA complaint handling mechanisms will need to be strengthened with the appointment of dedicated staff, training for government officers on public grievance redress (PGR), and notification of suitable rules for complaint handling. Similar arrangements will need to be made in FATA for PGR. Legal aid clinics will have to be established in each *tehsil* in NWFP, PATA and FATA to support affected persons with their complaints through the administrative and judicial processes, using the existing system with minor improvements (suggested above), till a more comprehensive reform process is initiated following the PCNA.

86. *Strengthening civil administration*: TA will be needed to formulate rules and protocols to ensure effective co-ordination between the various organizations engaged in reconstruction and rehabilitation. Existing civil administration infrastructure will need to be restored, including the 9 new *tehsils* created in the Malakand Division with new safe offices and residential complexes constructed, and transport and equipment provided.

87. *Engaging political representatives and local communities*: Parliamentarians from NWFP, PATA and FATA will be engaged for consultations, oversight and advice on the reconstruction and rehabilitation in their respective constituencies. Local community resources and capacities will be mobilized and engaged for planning and monitoring local development projects, providing oversight for the rehabilitation and reconstruction efforts, and supporting PGR and transparency initiatives. Public

awareness campaigns will be implemented to mobilize and engage local communities, and resources provided to support organized civic/citizen initiatives.

88. *Implementing Reconstruction and Rehabilitation:* To strengthen implementation arrangements, NWFP's Provincial Reconstruction, Rehabilitation and Settlement Authority (PaRRSA) and the FATA Disaster Management Authority will be strengthened down to the district and agency levels respectively. TA will be needed to devise and operationalize the implementation arrangements and provide support in the form of infrastructure and equipment for effective and efficient implementation.

ANNEX 1 – EDUCATION

ANNEX 1 - EDUCATION

A. Sector Background:

1. The total number of government schools and colleges in the five crisis affected districts of Malakand (Swat, Shangla, Buner, Upper Dir and Lower Dir) and two agencies of FATA region (Bajaur and Muhmand) are 5,347, and 992 respectively. There are 0.82 million (37% girls) students and 22,364 teachers in five districts of Malakand, whereas in the two agencies of FATA, there are 0.13 million (20% girls) students and 4,270 teachers.

2. The damage in the affected districts/agencies of Malakand and FATA region has been reported by the Department of Education (DoE) NWFP and provided by Work and Services Department (W&SD) NWFP, which are the agencies responsible for the construction, operation and maintenance of the education facilities in respective areas. The reported damage has been partly verified by the assessment team through field visits and by using staff of partner organizations. Cost of damage is worked out by depreciating the estimated reconstruction cost and using current prices in composite schedule of rates (CSR) for 2009 first quarter, of the NWFP Government.

B. Damage and Need Assessment:

Table Annex-1.1: Education – Damage and Need Assessment

Area	Total Schools	Damaged Schools	Completely Damaged		Partially Damaged		Total cost in US\$
			Schools	Cost in Rs.	Schools	Cost in Rs.	
NWFP	5,347	409	237	1,707	190	989	33.70
FATA	992	64	29	107.76	35	237.32	4.31
Total	6,339	473	266	1,814.50	225	1,226	38.01

Malakand (NWFP)

3. In the five affected districts, about 8% (427 out of 5,347) school facilities including residences and hostels have been completely or partially damaged. Out of the total 427 damaged schools, 237 are completely damaged and 190 are partially damaged. This includes 149 completely damaged and 65 partially damaged girl schools. The total damage cost for the fully and partially damaged educational buildings, materials, furniture and equipment is Rs. 2,696 million (US\$ 33.7 million). The most affected district is Swat with reported fully/partially 276 (167 girls) damaged schools.

4. Summary of Institutions in affected districts and reported damage is as under:

Table Annex-1.2: Education – Total Number and Affected Institutions in Affected Districts of Malakand

Level	Malakand (Boys)			Malakand (Girls)		
	Total No of Institutions in Affected Districts	No of Institutions Actually Affected in these Districts	Affected Institutions as % of Total	Total No of Institutions in Affected Districts	No of Institutions Actually Affected in these Districts	Affected Institutions as % of Total
Primary	3,079	98	46	1,309	138	64.5
Middle	335	29	13.6	172	42	19.6
High & Higher Secondary	269	74	34.8	86	30	14
College	86	12	5.6	7	4	1.9
Total	3,769	213		1,573	214	

Table Annex-1.3: Education - Summary of Damaged Institutions by District and Male/Female Fully Damaged Schools

S.No.	Category	Swat			Buner			Dir Upper			Dir Lower			Shangla			Grand Total		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1	Primary	19	82	101	3	1	4	14	2	16	8	11	19	5	0	5	49	96	145
2	Middle	8	26	34	0	0	0	0	2	2	1	3	4	0	0	0	9	31	40
3	High	13	13	26	4	0	4	1	2	3	2	2	4	1	0	1	21	17	38
4	Higher Secondary	4	2	6	0	0	0	1	0	1	0	1	1	0	0	0	5	3	8
5	Colleges	2	2	4	1	0	1	0	0	0	1	0	1	0	0	0	4	2	6
S. Total (Fully Damaged)		46	125	171	8	1	9	16	6	22	12	17	29	6	0	6	88	149	237

Partially Damaged Schools

S.No.	Category	Swat			Buner			Dir Upper			Dir Lower			Shangla			Grand Total		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1	Primary	28	33	61	4	3	7	1	0	1	7	4	11	9	1	10	49	41	90
2	Middle	13	6	19	2	2	4	0	0	0	4	4	8	1	1	2	20	13	33
3	High	17	1	18	9	2	11	3	0	3	4	3	7	7	0	7	40	6	46
4	Higher Secondary	3	1	4	0	2	2	2	0	2	1	1	2	1	0	1	7	4	11
5	Colleges	2	1	3	2	1	3	1	0	1	0	0	0	3	0	3	8	2	10
S. Total (Partially Damaged)		63	42	105	17	10	27	7	0	7	16	12	28	21	2	23	124	66	190
Grand Total		109	167	276	25	11	36	23	6	29	28	29	57	27	2	29	212	215	427

Table Annex-1.4: Education - Infrastructure Damage Cost by affected District Agency

Area/Province/Division/District	Damage Cost of education facilities	
	Fully Damaged	Partially Damaged
NWFP		
Swat	1,234.11	566.11
Buner	59.11	133.20
Lower Dir	206.89	144.30
Upper Dir	162.55	34.39
Shangla	44.34	111.00
Sub Total	1,707.00	989.00

FATA

5. In the two affected agencies, about 6.45% (64 out of 992) school facilities including residences and hostels have been completely or partially damaged. Out of the total 64 damaged schools, 29 are completely damaged and 35 are partially damaged. This includes 11 completely damaged and 4 partially damaged girl schools. The total damage cost for the fully and partially damaged educational buildings, materials, furniture and equipment is Rs. 345 million (US\$ 4.31 million).

6. Summary of Institutions in affected districts and reported damage is as under:

Table Annex-1.5: Education – Total Number and Affected Institutions in FATA

Level	FATA (Boys)			FATA (Girls)		
	Total No of Institutions in Affected Districts	No of Institutions Actually Affected in these Districts	Affected Institutions as % of Total	Total No of Institutions in Affected Districts	No of Institutions Actually Affected in these Districts	Affected Institutions as % of Total
Primary	568	26	53	266	13	87
Middle	61	10	20	39	-	-
High	42	10	20	6	2	13
College	5	3	6	2	-	-
Total	676	49		313	15	

Table Annex-1.6: Education - Summary of Damaged Institutions by District and Male/Female

District	Fully Damaged			Partially Damaged			Grand Total
	Boys	Girls	Total	Boys	Girls	Total	
Bajaur	14	10	24	14	3	17	41
Mohmand	13	0	13	8	2	10	23
Total	27	10	37	22	5	27	64

Table Annex-1.7: Education - Infrastructure Damage Cost by affected Agency

Area/Province/Agency	Damage Cost of education facilities	
	Fully damaged	Partially damaged
NWFP-FATA		
Bajaur	69.84	149.43
Mohmand	37.83	87.89
Sub Total	107.67	237.32

C. Early Recovery and Reconstruction Strategy:

7. Government has already announced opening of all schools in the affected area. Almost all of the fully/partially destroyed schools are now functional – with 45% working out of temporary structure/tents. While a more detailed analysis of the crisis would take place during the PCNA, the lack of effective education system and un-regulated *madrassa* system are the significant issues that need examination. Getting students back in schools is critical both in the short and long term.

8. The reconstruction in education sector will comprise of the following recommendations:

- The education services at all level should be completely restored without delay as a priority in particular areas where IDPs have returned.
- The education sector reforms should meet the social and cultural norms of the society. This may include some integration of the schooling and *madrassa* system, regulation and mainstreaming of *madrassa*' (evening classes in schools), or revised curriculum to allow option in line with social, religious and other the norms of the society.

- Special incentive packages should be provided to increase enrollment and improve compatibility with traditional *madrassa*. This may include stipend to all enrolled student, for attending monthly classes, free books/materials and transport facilities etc.
- The education infrastructure should be restored without disrupting the services. This could entail the provision of temporary (tents – early recovery) and in parallel start work on permanent (preferably per-engineered modular structure) alternative learning spaces, as well as undertaking repairs in partly damaged schools.
- Local communities should be involved in school management (through the parent teacher association) to increase ownership.
- Special incentive should be provided to the teachers through training and other incentives to retain quality teachers.

9. The PCNA exercise would analyze the above issues in more detail to propose long term sustainable solutions to the education system in the post crisis scenario. This would include the strategy, institutional arrangement and planning for the transformation phase over the medium term (2-4 years); and consolidation phase in the long term (5 to 10 year).

10. The total cost of need assessment in the education sector is estimated to cost Rs. 5,436.5 million (Table 1.8). The estimates are based on the latest composite schedule of rates CSR-2009 with an average premium of 30% for crisis affected area. This premium could vary between districts and agencies depending upon their location, topography and the risk perception during the reconstruction phases.

11. Technical assessments to identify schools to be reconstructed and repaired would form part of the strategy and the action plan for recovery and reconstruction. Assessments of community education needs and site specific technology options in the context of the damage will also need to be undertaken.

Table Annex-1.8: Education - Summary of Needs in Affected Districts/Agencies

Requirements	Cost (Rs Million)	
	NWFP	FATA
Provide temporary/transitional school structures (mainly tents)	70	15
Learning material and furniture for temporary Structures	35	10
Restoration/Reconstruction Plan	7.5	3
	(1.5 million/district)	
Teacher training and Incentive package for teacher training in damaged schools	85	25
Incentive package for students in damaged schools	95	35
	(1500 rupees per student)	
Restoration of partially damaged schools and supply of Equipment in damaged schools	1,607.8	383.7
Restoration of completely damaged schools and supply of Equipment in damaged schools	2,806.7	177.7
Technical assistance for curriculum revision	65	15
Total Estimated Cost Rs Million	4,772	664.5
Total Estimated Cost \$ Million	59.7	8.3

ANNEX 2 – HEALTH

ANNEX 2 – HEALTH

A. Sector Background:

1. The health delivery system in NWFP is comprised of both public and private sector providers; the private sector is mainly limited to urban centers. The data given in this report pertains to public sector facilities only as there was no data available with the provincial government on private sector service providers. This assessment is based on information collected from the crisis affected districts³ of NWFP and agencies⁴ of FATA through provincial health department and Government of Pakistan.
2. The reported damage has been partly verified by the assessment team through field visits and by using staff of other ADB financed projects in the area. Cost of damage is worked out by depreciating the reconstruction cost estimated by using current prices in the NWFP Government's composite schedule of rates (CSR) for the first quarter of 2009.

B. Damage and Need Assessment:

Table Annex-2.1: Health - Summary of Damage to Health Facilities and Cost

Area	Total Health Facilities	Damaged Health Facilities	Completely damaged		Partially damaged	
			Health Facilities	Cost (PKR-Million)	Health Facilities	Cost (PKR-Million)
Malakand	217	63	19	308.04	44	194.00
FATA	173	28	15	242.73	13	84.07
Total	390	91	34	550.77	57	278.07

3. The damage to public health facilities is not as extensive as was initially envisaged. In Malakand the damage reported is around 29% and in FATA it is estimated at 16% of the total health facilities in the affected areas. Reported health infrastructure damage in the affected districts/agencies is as under:

Table Annex-2.2: Health - Infrastructure Damage by district/Agency

District/Agency	Number of Health Facilities	
	Fully Damaged	Partially Damaged
Malakand Division		
Swat	6	12
Buner	1	21
Lower Dir	9	7
Upper Dir	3	3
Shangla	-	1
Sub Total	19	44
FATA		
Bajaur	7	7
Mohmand	8	6
Sub Total	15	13
Grand Total	34	57

³ Swat, Shangla, Buner, Upper Dir and Lower Dir

⁴ Bajaur and Mohmand

4. Most of the secondary health care facilities were unaffected and, except for short interruptions, these facilities continue to provide services. None of the District Headquarter Hospital (DHQ)/Agency Headquarter Hospital (AHQ) and Tehsil Headquarter Hospital (THQ) has been reported as damaged. However, 3 Civil Hospitals (CH), and 4 Rural Health Centers (RHCs) have been reported as partially damaged whereas 19 Basic Health Units (BHUs) have been reported as completely damaged and 37 as partially damaged. The smaller health units like community health centers and civil dispensaries have also suffered damages. The detail of damages and its cost to health facilities, equipment and vehicles is given in Table 2.4:

Table Annex-2.3: Health - Summary of Damage to Health Care System in the Affected Areas

Type of Health Institution/Offices	Malakand			FATA		
	Fully Damaged	Partial Damaged	Cost Rs. (million)	Fully Damaged	Partial Damaged	Cost Rs. (million)
Tertiary Care Hospital	-	-	-	-	-	-
Secondary Care – District/Agency, Tehsil Headquarters and Civil Hospitals	-	3	40.25	-	-	-
First Level Care Health Facilities (RHC, BHU and MCH/CH Centers)	14	34	428.98	12	12	310.8
Other Health Facilities (Dispensaries, First Aid Posts etc)	5	7	32.81	3	1	16.0
Total Health Facilities	19	44	502.04	15	13	326.8

5. Based on the available information, the total damage to the health sector is estimated at approximately Rs. 828.84 million or US\$10.36 million (Rs. 502.04 million in Malakand; and Rs. 328.8 million in FATA) (Table 2.4). This includes damage to health facilities including offices, residences, medical equipment, furniture and vehicles. These estimates are likely to be understated as they do not include estimates of damage to private health care facilities.

Table Annex-2.4: Health - Damage Assessment and Reconstruction Costs

Extent of Damage	Damaged Facilities	Damage Cost		
		Construction	Furniture/ Equipment/ Vehicles	Total
Malakand				
Completely Damaged	19	287.49	20.78	308.27
Partially Damaged	44	156.56	37.21	193.77
Sub Total	63	444.05	57.99	502.04
FATA				
Completely Damaged	15	227.02	15.71	242.73
Partially Damaged	13	73.43	10.64	84.07
Sub Total	28	300.45	26.35	326.8
Grand Total	91	744.5	84.34	828.84

Table Annex-2.5: Health - Infrastructure Damage Cost by affected District Agency

District/Agency	Damage Cost of Health Facilities	
	Fully Damaged	Partially Damaged
Malakand Division		
Swat	97.28	52.91
Buner	16.21	92.59
Lower Dir	145.91	30.86
Upper Dir	48.64	13.23
Shangla	-	4.41
Sub Total	308.04	194.00
FATA		
Bajaur	113.27	45.27
Mohmand	129.46	38.80
Sub Total	242.73	84.07
Grand Total	550.77	278.07

C. Early Recovery and Reconstruction Strategy:

6. The provision/restoration of health services in the affected areas is a key challenge. The Government has already announced opening of the health facilities, however issues related to lack of accessibility, non-availability of staff, especially female staff, medicines and quality of care will continue to affect the provision of public health services in the affected areas.

7. The DNA provides information on the reported damage to the health infrastructure and services, however a detailed analysis will need to be carried out after the crisis is over. In the reconstruction phase, the priority will remain as ensuring the provision of essential health care in the affected areas.

8. In the first phase (stabilization – first year), immediate and necessary restoration and rehabilitation of the damaged health facilities is proposed to be carried out through the following measures:

- The health services at all levels, ranging from first level care facilities (FLCF) to tertiary care, should be restored and provision of uninterrupted health promotive, preventive, and curative services to the affected population be ensured.
- Restoration and rehabilitation of damaged health facilities be carried out in a manner that service delivery continues to be provided without any disruption. This could entail the provision of temporary (tents – early recovery) and in parallel start work on permanent structures, as well as undertaking repairs of partly damaged health facilities.
- Prevention of epidemics by carrying out vaccination programs in the affected areas.
- Provision of psychosocial therapy services, using community based approaches and community level services through NGOs. This should include a public awareness campaign, preparation of training materials for para professionals, and PHC personnel; and
- Technical assistance for district/agency health planning to identify gaps in the existing delivery system, and work out details of the financial resources to meet these gaps

9. The PCNA exercise would analyze the above issues in more detail and will propose long term sustainable solutions in the post crisis scenario. This would include the strategy, institutional

arrangements and planning for the transformation phase, cover the medium term (2-4 years); and consolidation phase that will cover the long term (5 to 10 year). A summary covering the health sector needs in the affected districts/agencies and its cost is given below:

Table Annex-2.6: Health - Summary of Sector Needs in Affected Districts/Agencies

S. No	Requirements	Cost (Rs Million)	
		Malakand	Fata
1	Continuation of preventive and curative health services to affected population	90	36
		(1.5 million/district/month)	
		(for 12 Months)	
2	Rehabilitation and re-equipping of partially damaged health facilities	310.14 *	136.18 *
3	Reconstruction and re-equipping of completely damaged health facilities	504.4 *	397.6 *
4	Psychosocial care of affected population	30	12
		(0.5 million/district/month)	
		(for 12 Months)	
5	District-Agency Health Planning	7.875	3.15
		(0.175 million/district/month)	
		(for 9 Months)	
Total Estimated Cost Rs Million		942.415	584.93
Total Estimated Cost \$ Million		11.7	7.3

* The estimates are based on the latest composite schedule of rates CSR-2009 first quarter, of the NWFP Government, with an average premium of 30% for crisis affected area. This premium could vary between district and agencies depending upon their location, topography and the risk perception during the reconstruction phases.

ANNEX 3 – HOUSING

ANNEX 3 – HOUSING SECTOR

A. Impacts of the Crisis on Private Housing

1. The political and security crisis in parts of NWFP and FATA over recent years has severely impacted human settlements in a variety of ways. Extremist elements and insurgents, while they were gaining strength and territorial control, had made safe havens in or forcibly occupied many private houses within both densely populated urban areas and remotely scattered rural settlements. These became launching pads for their activities as well as targets of low-intensity, sporadic operations by the law enforcing agencies. The recent large scale, high-intensity military operations commencing earlier this year, caused further damages to private housing. The operations also caused massive internal migration of local populations from the 5 settled districts of NWFP and 2 agencies of FATA. This displacement of an estimated 2 million IDPs, signified one of the largest mass movements of crisis affected people in recent history at a phenomenal rate and in a relatively short span of time. It forced the affected population to take refuge with host families in adjoining and far-flung areas, or flock to camps set up by the government, humanitarian agencies, and private philanthropists. The houses emptied by the fleeing populations at times became the venue of pitched battles between the military and the extremists, wreaking further destruction to private houses and assets.

B. Overview of Damage and Recovery Needs

2. In the crises affected areas 11,755 housing units were completely destroyed in NWFP and FATA, while 11, 738 were damaged to various degrees. These include 5,934 and 7,280 respectively in NWFP, and 5,821 and 4,458 respectively in FATA, and represent 4% of the total housing stock in NWFP and FATA.

3. The table below summarizes the damage estimate for NWFP and FATA.

Table Annex-3.1: Housing - Damages Estimates

Area	Number of Houses Damaged		
	<i>Completely Damaged</i>	<i>Partially Damaged</i>	<i>Total</i>
Swat	3,738	4,387	8,125
Buner	1,126	990	2,116
Shangla	292	373	665
Lower Dir	233	428	661
Upper Dir	545	1,102	1,647
Sub-Total (NWFP)	5,934	7,280	13,214
Mohmand Agency	1,064	2	1,065
Bajaur Agency	4,757	4,456	9,213
Sub-Total (FATA)	5,821	4,458	10,278
Grand Total	11,755	11,738	23,492

4. The approach agreed with the GoNWFP and FATA Secretariat is to provide a Uniform Assistance Package to the affected house-owners, that includes a subsidy of Rs. 400,000 (approximately US\$ 5,000) for completely damaged and Rs. 160,000 (approximately US\$ 2,000) for partially damaged housing units. These amounts were calculated on the basis of a 575 square feet covered area of a core unit consisting of two rooms, a bathroom, and a kitchen, using a rate of approximately Rs.700 per square foot.

Table Annex-3.2: Housing - Needs Estimates

Area	Uniform Assistance Costs (Millions)		
	Completely Damaged	Partially Damaged	Total
Swat	1,495	702	2,197
Buner	450	158	609
Shangla	117	60	177
Lower Dir	93	69	162
Upper Dir	218	176	394
Sub-Total (NWFP)	2,374	1,165	3,539
Mohmand	425	0.27	426
Bajaur.	1,903	713	2,616
Sub-Total (FATA)	2,328	713	3,042
Grand Total (PKR)	4,702	1,878	6,580
Grand Total (USD)	59	23	82

C. Pre-Crisis Housing Baseline and Characteristics

5. The last housing census of 1998 provides the most reliable data on the number, types, and characteristics of private housing stock in the designated crisis affected districts and agencies of NWFP and FATA respectively. For the purposes of this analysis, the pre-crisis baseline housing stock was developed from three available options for projecting the 1998 housing stock. These include the use of: (a) a combined inter-censal housing growth rate of 2.045% for NWFP and FATA over 1981-1998; (b) the district-wise inter-censal population growth rate over 1998-2009 as a surrogate indicator for housing growth; and (c) a normalized housing growth rate for each district, by adjusting the combined NWFP housing growth against district wise population growth trends. Based on extensive discussions, it was eventually agreed with the GoNWFP and FATA Secretariat officials to use option 'a', since this option entailed the use of a direct and simple housing growth indicator rather than proxy or adjusted growth factors. The results are presented in the table below:

Table Annex-3.3: Housing – Pre-Crisis Baseline

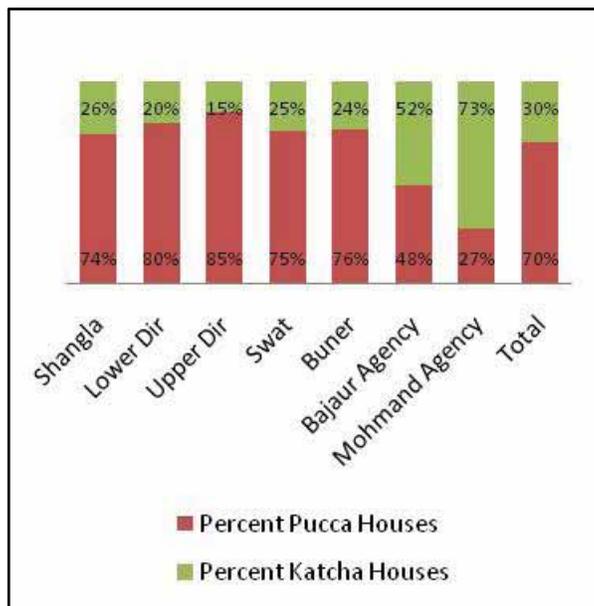
District/Agency	No. of Houses, 1998 (from census reports)			No. of Houses, 2009 (projected from 1981-98 housing growth rate)		
	Kucha	Pucca	Total	Kucha	Pucca	Total
Shangla	14,007	39,375	53,382	16,872	47,429	64,301
Lower Dir	14,690	57,349	72,039	17,695	69,079	86,774
Upper Dir	10,568	58,447	69,015	12,730	70,402	83,132
Swat	35,131	107,180	142,311	42,317	129,103	171,420
Buner	13,404	42,456	55,860	16,146	51,140	67,286
Bajaur Agency	33,784	31,655	65,439	40,694	38,130	78,824
Mohmand Agency	27,116	10,007	37,123	32,662	12,054	44,716
Total	148,700	346,469	495,169	179,116	417,337	596,453

6. With the exception of the two tribal agencies, more than three quarters of the pre-crisis housing stock in the crisis affected region constituted pucca construction. This is unlike the typical housing

characteristics in the rest of Pakistan (importantly including the pre-2005 earthquake housing stock in the northern parts of NWFP and AJK). Moreover, an analysis of the pre-crisis housing characteristics and data from 1998 census report reveals that housing units in the crisis affected region, at a weighted average of 2.7 rooms/unit, translate to a covered area of about 575 sq.ft, which is also higher than several of the earthquake affected districts. These important differences in the quality and size of the pre-crisis baseline housing stock, compared with the pre-earthquake housing stock, have been taken into account along with other post-crisis factors, for considering the size and unit cost of construction in estimating the housing reconstruction needs.

D. Damage Estimate Methodology

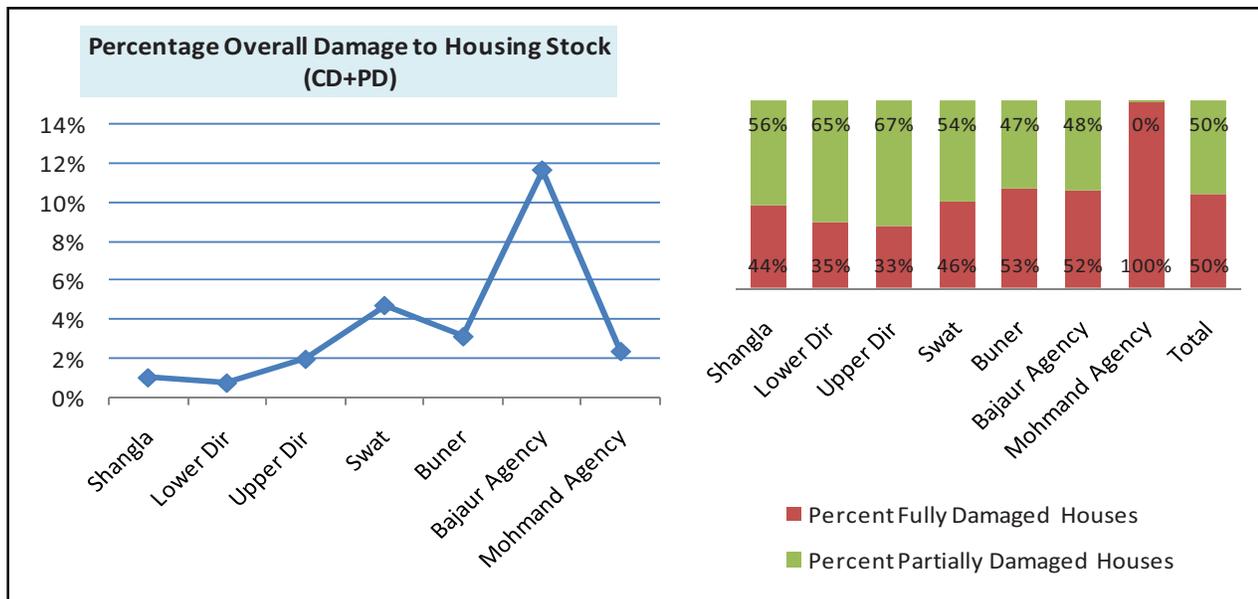
7. Primary data for assessment of damage to private housing was provided by GoNWFP and FATA Secretariat. This data was then corroborated with other secondary sources of information, qualified with field observations by partner teams, and rationalized in terms of various baseline and damage scenarios. The methodology of housing sector damage analysis is summarized below:



- (i) **Use of Relative to Baseline/Percentage Based Data:** The precarious security situation in most parts of the crisis affected region made it difficult for the government to supply inventory-based data. Since the purpose of the DNA is to provide a preliminary estimate of crisis-related damages, it was agreed with the government that it shall provide either ‘best-estimated-percentages’ or ‘numbers-based-on-percentages’ in taking stock of housing sector damage. Accordingly, for some districts/agencies the government provided estimated percentage damage, while in others it provided estimated numbers of damaged housing units by applying these percentages to its own estimates of the baseline housing stock. This damage analysis is therefore primarily based on a ‘relative to baseline’ analysis, relying as much on government-supplied damage estimates as on rigorous baseline analysis and their rationalization.
- (ii) **Validation through Partner Organizations (POs):** A number of civil society POs who were already working in the affected areas prior to the crisis were engaged in order to carry out a validation exercise on a sample basis. The sample was chosen based on information shared by the Military of the Union Councils (UCs) where the most intense military operations had taken place, indicating a greater probability of damage. The choice of highly damaged areas for this survey was intended to provide reasonably representative damage estimates to enable validation of the government data. Subsequently, the Housing team developed a detailed model that, through reconciliation, rationalization, and plausibility checks, utilized the government data, PO data, and the baseline developed by the team to estimate the number of fully or partially damaged houses.
- (iii) **Damage Corroboration through Other Sources:** Housing damage data has also been compared with other primary and secondary data sources for quantitative and qualitative rationalization

including the Military units operating in the crisis areas; FATA, provincial, and district government reports; UN field assessment reports, as well as video and photographic evidence.

8. As can be seen in the charts below, the overall percentage damage to the pre-crisis housing stock in the affected areas of NWFP and FATA is around 4%, and varies within a range of 1-12%. The highest damage percentage has been reported for Bajaur Agency, while within NWFP damage to housing stock seems the highest in Swat District. Moreover, out of the overall damaged stock across FATA and NWFP, it appears that the damage is evenly distributed (50:50) between fully destroyed and partially damaged houses. Exceptions include Mohmand Agency where the entire damaged stock has been characterized as fully damaged, and the Upper and Lower Dir where more houses have been partially damaged rather than fully damaged.



Recovery and Reconstruction Strategy

9. The proposed recovery and reconstruction strategy for private housing aims at helping affected households transition from a state of displacement to being re-housed in permanent housing of improved quality. The strategy is built around the following core principles and considerations:

- a. **Building-Back-Better (BBB):** Natural disasters and crisis/conflict situations provide an opportunity for improving the quality of reconstructed public and private assets. In the case of private housing, the proposed BBB entails two types of improvements in quality: (i) the replacement of all katcha houses with pucca construction; and (ii) the replacement of all destroyed houses with multi-hazard resistant houses, considering that the crisis-affected region falls within a high-seismic risk zone as well as is vulnerable to a variety of other natural hazards.
- b. **Promoting Equity through Uniform Assistance Packages:** A Uniform Assistance Package is proposed to be provided to all affected homeowners, irrespective of extent of individual damages. This will ensure a sense of equity amongst the affected population, and help minimize the risk of exacerbating tensions and rivalries across competing beneficiaries from different ethnicities, communities, and tribes.
- c. **Ensuring Crisis/Conflict-Sensitive Recovery:** The core principle of conflict-sensitive development has been adapted for housing sector recovery by proposing assistance for a replacement unit that corresponds closely with the average pre-crisis housing unit size. The

proposed housing reconstruction package offered to crisis-affected households would thus enable most beneficiaries to reconstruct back to the original size of the lost asset, while for many others who had significantly smaller than average houses or had katcha construction, the package would offer an opportunity for improved and safer living standards.

- d. **Homeowner-driven Reconstruction:** The proposed mechanism for government assistance is a cash grant-based, homeowner-driven model, whereby homeowners are made in-charge of reconstructing or repairing their houses, facilitated through provision of cash support and technical assistance. This approach would allow for responsiveness to individual preferences and would maximize household ownership thereby keeping expectations and demands from the government realistic. Homeowners would be free to choose type of construction, architectural layouts, and the preferred size of the core housing units to be reconstructed. Simultaneously it would mobilize self-standing reconstruction and rehabilitation efforts, thereby not burdening government administrative capacity with a large volume of contract management. Finally, such an approach would inculcate a culture of safer and hazard resistant housing reconstruction in this multi hazard prone zone, by imparting the necessary knowledge to homeowners and skills to the local artisans.

Recovery and Reconstruction Needs

10. The agreed approach with the government is to provide a Uniform Assistance Package to the affected house-owners, that includes a subsidy of Rs. 400,000 (approximately US\$ 5,000) for completely damaged and Rs. 160,000 (approximately US\$ 2,000) for partially damaged housing units.

11. These amounts were calculated on the basis of a 575 square feet covered area of a core unit consisting of two rooms, a bathroom, and a kitchen, and using a rate of approximately Rs.700 per square feet. This covered area has been based on the average size of a house across the affected area, as stated in the 1998 Census Reports. The per square foot cost of construction was calculated using the average cost for various construction options including brick, stone, and block masonry – an approach that would have the benefit of empowering the affected house-owners to individually decide upon their preferred construction material (stone/block/brick masonry). The estimated per square feet rate takes into account: (a) current CSR rates of basic construction inputs in the region; (b) local area premiums in the crisis-affected region, over and above unit rates of basic construction indices; (c) an allowance for prospective price escalation over a one-year period; (d) full use of new rather than salvaged construction materials; and (e) building back better standards and hazard resistant features.

12. Based on the above strategy, the table 3.2 above summarizes the housing sector needs estimate for NWFP and FATA. The stated figures represent a best estimate possible under the circumstances. The actual damage figures and thus the reconstruction costs will have to be confirmed through a house-to-house Detailed Damage Assessment and Eligibility Verification Survey. Such a survey should commence as soon as the security situation in the area is conducive, and can be undertaken incrementally if needed.

13. **Detailed Damage Assessment and Eligibility Verification Survey** will confirm eligibility through transparent technical criteria. Moreover, it will also provide comfort to home-owners to begin self-repair without concerns of not getting legitimate compensation for losses incurred. Engineers from the public and private sectors will need to be identified and trained in assessment techniques and criteria, and teamed up with a local government official and a social mobiliser/community activist. In order to account for the social and political sensitivities within the concerned districts/agencies, village/community participation in the selection and prioritization processes is critical. The preparation

of an accurate list of reconstruction and restoration grant beneficiaries, following a thorough housing damage assessment and social verification is an urgent task.

14. **Training** in appropriate hazard resistant construction for artisans, contractors, home-owners, and construction supervisors should be an integral part of GoP's reconstruction strategy. This training should be initiated as soon as possible, and be repeatedly provided on an ongoing basis throughout the reconstruction period. Assistance for permanent housing will need to be tied to the adoption of the improved practices. It is suggested that prevalent construction materials be used as far as possible to avoid the time lag that is created by introduction of radically different ones. This also maximizes recycling of materials and thereby reduces costs and speeds up recovery.

15. **Information Dissemination.** A crucial part of the GoP's strategy should be effective and widespread consultation and dissemination of information to the affected communities. This should include information on the full range of assistance options, their eligibility criteria, and the means of accessing them, as well as on improved construction methods for hazard resistant houses.

16. **Cash grants for Permanent, Hazard-resistant basic Housing.** The core of the GoP's assistance to affected households in both urban and rural areas should be cash grants for basic housing assistance. The grants should be released in tranches based on stages of construction, with technical assistance for introduction of hazard resistant features provided by local governments and/or line agencies. In this scheme, households will be able to utilize their own labor, use hired labor, or enter into an arrangement with a partner organization/NGO to rehabilitate or reconstruct their houses. However, close monitoring of reconstruction processes adopted will be crucial.

17. **A Grievance Redressal Mechanism** will need to be established at the union, district/agency, and program levels, to expedite resolution of complaints by and grievances of affected families concerning, for example, erroneous housing damage assessment or the delayed release of financial assistance. It will also be needed for settlement of land disputes and documentation of land claims.

Principles and Strategies for an Owner-Driven Housing Reconstruction Program

18. The Owner-Driven Housing Reconstruction Program has underpinnings in the following principles: (a) promotion of hazard-resistant construction standards and design; (b) rebuilding in-situ; (c) ensuring rebuilding is owner-driven with technical assistance, training, and supervision; (d) utilization of easily accessible materials and familiar construction methods; (e) provision of a uniform assistance package that is not compensation-based; (f) coordination of multiple reconstruction initiatives and standards for equity; and (g) the linking of housing reconstruction to provision of livelihoods and infrastructure rehabilitation.

19. An indicative set of policy, strategic, and operational requirements for preparing and implementing such a program, based on local (post-2005 earthquake) and international experiences is as following:

Policy Principle	Strategic Underpinnings
<p>Housing Program Objective: Provide financial and technical assistance to affected home owners in reconstructing or rehabilitating their damaged houses, using a home-owner driven, assisted and inspected, construction regime.</p>	
<p>1. Ensuring Owner-Driven Reconstruction - <i>homeowners in charge of rebuilding their own homes</i></p>	<p>Providing an enabling environment to homeowners and artisans through:</p> <ul style="list-style-type: none"> ○ Providing prior training, and information/education campaigns ; ○ Encouraging rebuilding with familiar methods & easily accessible materials – <i>ensuring sustainability and cultural preferences</i>; ○ Providing technical assistance during construction ; ○ Promoting use of own labor and salvaged materials; ○ Ensuring building materials supply chains; ○ Facilitating the opening of bank accounts.
<p>2. Assisted and Inspected Reconstruction/Restoration</p>	<ul style="list-style-type: none"> ○ Mobilizing a large number of assistance and inspection (AI) teams for house-to-house outreach; ○ Disbursing in tranchés linked to stages of construction and adoption of hazard resistant standards; ○ Tranché disbursement through Banks after progress/quality validation; ○ Provision of resources for forming AI teams and management structures through public-private partnership arrangements.
<p>3. Ensuring Hazard Resistance</p>	<ul style="list-style-type: none"> ○ Development of minimum structural design standards that meet internationally accepted requirements for low cost hazard resistant housing; ○ Development of a menu of structural design options, using prevalent construction materials.
<p>4. Ensuring Uniform Assistance Package - across all programs and funding sources - & Maximizing Outreach - through optimized designs and implementation mechanisms</p>	<ul style="list-style-type: none"> ○ Cash grants to target core housing unit – which may not be proportionate to the replacement value of loss; ○ Reconstructing only where necessary – based on detailed damage assessment having technical criteria to distinguish between houses needing reconstruction and those needing economically feasible restoration/retrofitting only; ○ Replacement of a destroyed house with a new hazard resistant core unit; ○ Restoration and strengthening of damaged house to hazard-resistant standards; ○ Rebuilding in-situ - addressing land ownership & availability issues and minimizing relocation costs; ○ Enhancing sustainability of program through parallel efforts on provision of livelihoods, and physical/social infrastructure etc.
<p>5. Ensuring Judicious use of Grants; reducing and managing conflicts and</p>	<ul style="list-style-type: none"> ○ Ensuring consistent damage assessment criteria across affected area; ○ Inclusion of land ownership criteria in determination of eligibility; ○ In case of tenants agreements/authorization from owners to

Policy Principle	Strategic Underpinnings
grievances; avoiding socio-economic distortions, inequities and disparities	rebuild/repair house; ○ MOUs to be signed with beneficiaries to ensure the judicious and optimal use of grants, with penalizing clauses for those found in intentional non compliance; ○ Developing and putting in place participatory and inclusive information management and grievance redressal systems.

ANNEX 4 – SOCIAL PROTECTION AND LIVELIHOODS

ANNEX 4 – SOCIAL PROTECTION AND LIVELIHOODS

A. Sector Background:

1. This section assesses livelihood losses and other related impacts of crisis and resultant large scale migration of IDPs. Short term as well as long term social protection policy options to assist the poor and vulnerable of the crisis area are presented with some generic resource estimates. So far, 329,792 families have been registered as IDPs with an estimated total number of 2.5 million people. From the onset, it is to be noted that this assessment is carried out with limited available data, and without any significant field insight due to the peculiar nature of the crisis and security concerns arising from it. Thus, the estimates of damages are mostly based on secondary information, which could not be validated. Moreover, since the crisis has not been subsided completely, a more accurate assessment may be carried out once the situation normalizes in the area.

2. Among the available data sources, Headquarter Special Support Group for IDPs and NADRA has provided the latest information on IDPs movement and current status. Besides, wherever available, data from Bureau of Statistics, Planning and Development department, government of NWFP has also been used. Furthermore, data from 2006/07 Pakistan Social and Living Standards Measurement Survey (PSLM) provided some valuable insight into the profile of affected areas. Lastly, Population Census data of 1998 (adjusted upwards to account for population growth) has been used.

3. The crisis resulted in a large number of displaced people with little or no livelihood means intact. Their rehabilitation requires the provision of a continuum of public support that addresses immediate needs, facilitates and incentivizes return to their home, and revitalizes social and economic life by restoring sustainable livelihoods.

4. To this end, Government of Pakistan has already taken several steps to mitigate the immediate needs of IDPs. These include, among others, establishment of IDP camps, provision of food and health facilities, and cash grants as sustenance allowance. These camps have been managed by the Headquarter Special Support Group with the assistance of UN, National and International NGOs. Moreover, provincial and district administrations of affected area provided relief goods and free transport to the population. A onetime cash allowance of Rs. 25,000 is being provided to the returning families. So far, 248,250 families have been paid a total amount of 6.2 billion Rupees through a special arrangement, whereby NADRA is maintaining and verifying the registration process and database of IDP families. The payment is being made through a special disbursement card tracking real time disbursement. Approximately 95.5% of the funds have been withdrawn by the IDP families, which may indicate the immediate cash needs of IDPs. Pakistan Bait-ul-Mal also provided relief goods and cash assistance to IDPs, and so far, has disbursed over 500 million rupees to the affected population.

Table Annex-4.1: SP - Cash Assistance to IDPs up to August 16, 2009

Total IDP Beneficiaries Identified (Families)	329,729
Total Cards Distributed, So far	248,250
Total No of ATM Transactions	232,422
Total Amount Drawn in ATM Transactions	2,424,312,000
Total No of POS Transactions	140,869
Total Amount Drawn in POS Transactions	3,499,228,338
Total Amount Withdrawn by IDPs, so far	5,923,540,338

Source: NADRA

B. Damage Overview and Recovery Needs:

5. As the crisis has not been completely subsided, a cogent damage and recovery needs assessment is not possible at this time; however, it is endeavoured to arrive at a preliminary assessment with the help of existing data outlined above, and by using the figures provided by district administration working in the areas and other relief agencies.

Pre-crisis profile of the affected areas

6. The crisis area comprises of five settled district of NWFP namely, Swat, Buner, Lower Dir, Upper Dir, and Shangla, whereas two agencies, Bajaur and Mohmand have been directly affected from FATA. Due to the nature of the crisis, affected area is not strictly defined. In particular, adjacent districts as well Agencies from FATA are at a constant risk. Moreover, IDPs also affected the life in the adjacent host districts, which witnessed severe strain on their limited resources, public service delivery and infrastructure. However, this DNA does not take into account any indirect affect on adjoining areas.

7. According to the 2006-07 Pakistan Social and Living Standard Measurement Survey (PSLM), average household size in NWFP is 7.5 members, as compared to 6.3 at the national level. The average size of NWFP household is highest among the four provinces. The housing indicator, based on the 1998 Census, also reflects high density of 8 persons per housing unit for the NWFP as compared to 6.8 for Pakistan. This number is even higher in the affected districts where it stands approximately 9 persons per housing unit.

8. Access to other essential daily life amenities like gas, electricity and water etc are also not at par as compared to the national level or with other major provinces. Poverty has always been a source of concern for the NWFP, as it has experienced upward trends in the last two decades. Poverty in NWFP persistently remained higher than rest of the country as a whole, in both urban and rural areas. According to the World Bank estimates, Poverty Headcount for NWFP is 46% as compared to 37% for Pakistan in 2001-02 (*for calculating poverty headcount, World Bank has used PIHS data and its own poverty line*). The Social Policy and Development Centre (SPDC) has worked out Incidence of Poverty for the year 2005 on the basis of HIES 2005-06, using official poverty line. According to those calculations, Incidence of Poverty in NWFP has declined from 39.9% in 2001-02 to 33.6% in 2004-05.

9. NWFP in general and the affected districts in particular witnessed significantly higher population growth rate than the national average between 1981 and 1998. This resulted in additional pressure on existing infrastructure and facilities, which were already inadequate to cater for the needs of large population.

Table Annex-4.2: SP - Estimated Population of Affected Areas

District	Population in 1998	Annual growth rate 1981-98	Estimated Population in 2009
Buner	506,000	3.86	767,506
Lower Dir	718,000	3.42	1,039,380
Upper Dir	576,000	2.76	777,119
Shangla	435,000	3.27	619,734
Swat	1,258,000	3.37	1,811,425
Bajaur	595,227	4.33	948,820
Mohmand	334,453	4.28	530,330
Total	4,422,680		6,494,314

Source: Population census data of 1998, extrapolated for 2009

Employment

10. In 2005, the total employed population of affected districts was 587,348. Out of these approximately 57% are employed in agriculture, forestry and fishing industries. This was followed by community, social and personal services (12.15%), construction (11.21%) and wholesale, retail trade and restaurants (9.49%). Transport, storage and communications accounted for 4.66%, whereas, manufacturing stood at 3.18%.

Table Annex-4.3: SP - Employed Population (10 Years & Above) by Industry, Employment Status, for 1/1/2005 in the affected districts

Description	No. of Total Employed	% of total Employed
Agriculture, Forestry Hunting & Fishing	336,174	57.24
Mining & Quarrying	3,205	0.55
Manufacturing	18,695	3.18
Electricity, Gas & Water	2,611	0.44
Construction	65,828	11.21
Whole Sale, Retail trade & Restaurants	55,740	9.49
Transport, Storage communication	27,381	4.66
Finance, Insurance Real Estate & Business Services	1,063	0.18
Community, Social & Personal Services	71,383	12.15
Others	5,268	0.90
Total Employed	587,348	100.00

Source: Bureau of Statistics, P&D, Government of NWFP

11. Latest data on employment status of IDPs' family heads has also been collected at the time of registration. IDPs family heads were asked about their employment status prior to the crisis and as per reported data, 28.38% family heads are unemployed, 15% are associated with agriculture, 10% are private servants, 8.84% own a private business, 5.20% are in government service, 4.64% are employed in labor market, whereas 21 % are employed in unclassified category.

Table Annex-4.4: SP-Employment Status of IDPs

Gender	Agri	Govt	Semi Govt	Labor	Private Servant	Private Business	Student	Others	Un employed	House Wife	Total
Male	49,248	16,135	1,933	13,649	32,416	28,606	12,013	53,608	81,186	0	288,794
Female	350	974	271	1,640	737	508	383	15,963	12,218	7,320	40,364
Total	49,598	17,109	2,204	15,289	33,153	29,114	12,396	69,571	93,404	7,320	329,158
%	15.07	5.20	0.67	4.64	10.07	8.84	3.77	21.14	28.38	2.22	

Source: NADRA

Damage Estimates

12. Out of a total 329,792 registered IDP families, 197,181 have returned so far per Headquarters Special Support Group, which accounts for approximately 60%; however, it is estimated that the

complete return shall only be possible once the operation is concluded. Moreover, as the Pakistan Army is preparing to launch new operations in FATA, more IDPs are expected to remain in the camps.

Table Annex-4.5: SP-IDPs No. & Status Per Headquarter Special Support Group for IDPs

Area	No. of IDP Families	No. of IDP Families Returned	% Returned
Bajaur	54,826	16,239	29.62
Mohmand	19,977	2,014	10.08
Dir	27,966	1,868	6.68
Buner	71,860	60,219	83.80
Shangla	8,429	7,931	94.09
Malakand	5,152	108,910	74.22
Swat	141,582		
Total	329,792	197,181	59.79

13. As evident from the employment patterns, the main source of livelihoods in the affected districts is agriculture and related activities. Within agriculture, livestock are an important element of income generation in the affected districts. As the crisis intensified, little warning, if at all, were given to the people of the crisis areas, and they had to flee in large numbers from their homes at a very short notice. The resultant chaos and lack of transport meant that a large number of livestock was left behind unattended, some of which died in cross fire or due to hunger. Likewise, farms and fields were abandoned with standing crops and fruits, which were either destroyed by shelling or due to the fact that nobody could harvest ripe produce from the fields.

14. Another important and probably far reaching impact of the crisis is on tourism. Swat is particularly famous for its pristine beauty and rich cultural heritage. Every year a significant number of local and foreign tourists used to travel to the area, which had been particularly beneficial for local economy. Small shopkeepers, hoteliers and transporters have been specifically hurt due to the crisis. Even as the crisis subsides, it shall take a long time for Swat to return to its pre-crisis situation, where people from within and outside Pakistan thronged the areas as a popular tourist destination.

C. Recovery & Rehabilitation Strategy:

Strategy

15. Interventions will transition from a relief-oriented safety net for the immediate future to a productive and development-oriented safety net for the longer term. They would facilitate and encourage the return of IDPs. Initially, interventions would target all, or a somehow defined majority, of IDPs as well as the people at large of the crisis area. Subsequently, targeting would emphasize destitute, poor and vulnerable households. There need presumably no longer be a distinction between IDPs and non-IDPs once the IDPs have returned home.

The immediate future

a. Provision of cash benefits to:

- i. Population at large either living in the crisis areas or those who have moved out due to the crisis and duly selected under an objective poverty and vulnerability criteria. These benefits would be provided on a monthly basis for 6 months.
- b. Provision of a one-off compensation for property losses to all IDP households⁶ as well as those who stayed back.
- c. Provision of a resettlement grant to all targeted IDP households contingent on proof of intention to resettle.
- d. Management of humanitarian assistance to support Government policy, i.e. minimize any adverse incentives vis-à-vis resettlement that might arise from humanitarian assistance by international organizations or NGOs.
- e. Monitoring of food prices in the market place; monitoring and evaluation of IDP responses to the program element.

The longer term

- a. Labor-intensive Public Works (PW) schemes to:
 - i. Generate cash, augment purchasing power and promote local markets;
 - ii. Repair and improve socio-economic infrastructure with a focus on works that
 - Build up community assets and restore access to services, and⁷
 - PW schemes may be linked to human capital enhancing programs (skills training, social services, asset management training, etc).
16. While PW schemes preferably should be open to all comers, they can be designed to targeted specific cohorts – by defining targeting criteria and, to a certain extent, by adjusting appropriately other design parameters, such as wage rates, payment modes, duration, etc.
17. PW can be community-generated through
 - i. Community development programs (although the start-up period can be substantial in the absence of appropriate agencies and institutions); or
 - ii. In consultation with the community; or
 - iii. At the initiative of the community, using a community development approach outside the framework of a formal community development program.⁸
 - f. Cash transfers to labor-poor households (households classified as extremely poor, i.e. below the food poverty line)
 - i. These can be conditional or unconditional; (though, again, setting up conditional cash transfers can take considerable time when the agencies and institutions are missing).
 - g. Micro-finance instruments (micro-savings and micro-insurance) and community risk pooling arrangements that promote asset creation and reduce risk among the poor; and similarly
 - h. Micro-finance instruments that allow small/micro entrepreneurs and livestock owners to re-establish businesses and stocks.

⁶ Based on the argument that this is a covariate “disaster”.

⁷ The list of actual goods and services undertaken in public works programs varies depending on need and may include: a) creation, maintenance, or reconstruction of existing infrastructures, like roads, bridges, schools, health posts, sanitation improvements; b) environmental and agricultural projects, such as irrigation, afforestation, soil conservations and watershed development; c) cleaning roads and other public facilities; and d) social services including day care, food preparation, etc.

⁸ This mechanism could be enhanced by training in basic project design and advocacy and by introducing a sub-project selection process that is done by the community

Financing and implementation

18. Detailed and accurate cost estimates cannot be worked at this time out due to incomplete data, sporadic assessment and the interdependency of proposed interventions. Rudimentary cost estimates for livelihood support cash grants scheme are presented below. However, no such attempt has been made for medium/long term programs outlined in the previous section.

19. These estimates are based on a few assumptions. For example, for the purpose of cost calculation, it is assumed that the recent turmoil in the area has brought the poverty roughly back to 2001-02 level; hence, 40% population of the crisis areas is considered as eligible beneficiaries. Also, the implicit assumption is that there is no change in remittance patterns. Nevertheless, detailed eligibility criteria may be developed based on more accurate assessment on the ground.

20. Keeping in view the past experiences of such programs in Pakistan, especially the one commissioned after the earthquake of 2005 in which the benefit amount was set as US\$ 50, it is proposed that an amount equivalent to approximately US\$ 61 per month in Pakistani rupees (approximately Rs. 5,000) may be given to each eligible family of the crisis areas for a period of six months (the cash grants benefits are proposed for all the qualifying families permanently residing in the crisis areas regardless of their present residence). The increase in amount is proposed due to the fact that after the earthquake, most of the food needs of the affected population were met through the provision of food packages by different agencies, whereas, in this case, the household has to meet its food needs out of the subsistence allowance.

21. Depending on the availability of funds, provision of livelihood support cash grants may be extended to another 20% of population, thus making it available for approximately 60% of the total population. This addition may be considered in view of high unemployment reported by IDPs and the fact that the crisis may have made additional population vulnerable who were living marginally above the poverty line before the crisis.

22. The short term cost estimates are presented for livelihood support cash grant program based on the 2001-02 poverty estimates of NWFP as baseline and providing cash grants of Rs. 5,000 per month for 6 months to approximately 490,682 families (40% of the population) with a total budgetary implication of approximately US\$ 192 million.

Table Annex-4.6: SP-Livelihood Support Cash Grants estimate based on 40% poverty line

Estimated population of crisis areas	Population below poverty line at 40%	Targeted Households @ 9 person per HH	Targeted families @ 1.7 families per HH	Benefit Amount @ Rs. 30,000 per HH in six installments	Benefit amount in US\$	Total cost in US\$ including 7% Admin Cost
6,494,314	2,597,726	288,636	490,682	14,720,445,854	179,517,632	192,083,867

ANNEX 5 – AGRICULTURE, LIVESTOCK AND IRRIGATION

ANNEX 5 – AGRICULTURE, LIVESTOCK AND IRRIGATION⁹

A. Sector Background:

1. Agriculture is the backbone of the economy in both NWFP and FATA. In NWFP it accounts for around 22% and of the provincial GDP and 44% of employment.¹⁰ Out of the overall contribution of agriculture to the provincial GDP during 2007-08, share of crop sub-sector was 11% and that of livestock sector was 10%. In FATA, agriculture, the primary occupation of nearly 100 percent of the population, and is mostly below subsistence level. Landholdings are small and fragmented, and the majority of farming families have no access to irrigation. Due to the rugged terrain and low rainfall, only 30% of the land in NWFP is cultivable. The extent of irrigation varies from district to district. In NWFP, the irrigation is more extensive than in FATA and most canals get water throughout the year, whereas most canals in FATA are so called “civil canals” and only during *Kharif* season they get regular water. In NWFP, about 60% of crop land is under irrigation during *Kharif* season and 43% of crop land under irrigation during Rabi season.

2. Over 80% of the population of the crisis affected districts and agencies are dependent on agriculture as the main source of their livelihood. The majority of families combine smallholder crop production with livestock rearing. Commercial production of fruit and vegetable, particularly for the main urban markets has increased rapidly, particularly in some areas such as Swat.

3. Wheat is the most important Rabi (winter) crop, occupying the bulk of the cropped area. Maize, rice, fruit,¹¹ and tobacco are the main *Kharif* (summer) crops in the province. Wheat straw, maize thinning and stover are important by-products used for livestock. Fodder is only grown in limited quantities. Vegetables are grown throughout the year and are an important source of both nutrition and income for household members. During 2006-2007 cropping seasons, in NWFP wheat was grown on 721,000 ha, rice on 59,400 ha, tobacco on 36,500 ha, vegetable 37,600 ha, and fruits on 48.8 ha respectively.

4. Livestock farming is a major source of livelihood in the arid plains and mountain regions of southern NWFP and most parts of FATA. Around three-quarters of farm households are involved in sheep, goat and cattle rearing. A typical family keeps up to three cows or buffalos, 5-8 sheep or goats, and 6-10 poultry. Milk animals used to be mainly local breeds but over the last years it has become common to purchase lactating buffaloes from the Punjab, keep them for 12-18 months and then resell them. These buffaloes are mainly stall-fed whereas other cattle, as well as the sheep and goat, are grazed except for the harshest winter months. Poultry is fed on household scraps and scavenge. Milk products and eggs form an essential part of the local diets; eggs and meat are often sold for cash. Cattle, buffalo, sheep and goat are kept in pens in summer but in covered rooms adjacent to or under the main dwelling during winter. During summer herds are cattle and sheep and goat are taken to pastures.

5. In addition to the settled agricultural population, there is also a significant number of transhumants (Gujars). The Gujars specialize in the rearing of sheep and goat. The animals are grazed on the uncultivated areas and on crop stubble after the harvests. Their animals are mostly for sale to the large urban centers particularly during Eid times when it is traditional to sacrifice a sheep or goat.

6. Since 2008 there has been an ongoing crisis between the Government and armed groups in FATA and parts of NWFP, which has intensified over time. In May 2009, the Government started a major military operation with the aim of driving out the militants from the area. As a result, some two million people left their homes and farms. Swat, Buner, and Shangla districts of NWFP, and Bajour Agency of

⁹ In this report, the agriculture is defined as composed of crop, livestock, irrigation and fisheries sub-sectors.

¹⁰ Pakistan: NWFP Economic Report 2005.

¹¹ The main fruits are apricot, peach and pear with smaller areas under persimmon, mulberry and cherry, almonds and walnuts are also grown. Vegetables include onion, tomatoes, peas and potatoes.

FATA have suffered particularly severely, where in some cases almost entire population had to leave the area at short notice before the military operation.¹² Around July 2009 the crisis has abated and conditions are beginning to return to normal in some of the affected areas. As a result displaced people have been returning to their homes.

7. These protracted crises have caused an enormous damage to the economies of NWFP and FATA, in particular to agriculture sector. An estimated 717,000 large and 726,000 small animals have been lost in the crisis area, which represent 37% and 29% of total large and small animals in the five districts of NWFP and two agencies of FATA covered by this assessment. In addition, 27-97% of the 2008/2009 Rabi season crops have been lost as fields ready for harvest were abandoned. Moreover, up to 80% of 2009 Kharif crops could not be planted as families could not return to their farms and the 2009/10 Rabi crop is also likely to be negatively affected. Some 80% of the population lives in rural areas and their livelihood is directly dependent on agriculture, the sector has suffered significantly. The economic consequences of this human-made disaster are expected to linger for years leaving the rural population extremely vulnerable. Comprehensive and properly-organized recovery programs of federal and provincial governments along with well-coordinated assistance from donor community will help alleviate these sufferings and reduce the recovery period.

8. The following sections provide the detailed assessment of damages and needs of crop, livestock, irrigation and fisheries sub-sectors in five districts of NWFP and two agencies of FATA areas, identify the critical issues and also discuss the immediate-, short- and medium-term strategies needed for restoration of agriculture-based livelihoods in the affected areas.

B. Damage and Need Assessment:

Damage Overview

9. The major damages occurred as animals and standing crops ready for harvest were abandoned. In addition, major losses occurred due to lost production as farmers could not return to plant the next season's crops. There was also physical damage to buildings, roads and public utilities, including irrigation facilities. Government offices, including veterinary hospitals, offices and research facilities were looted and vandalized.

10. *Losses of Livestock Sub-Sector.* Livestock is the main asset of rural families. During their precipitous flight from the fighting, people simply abandoned their animals. In some cases the animals were turned loose to fend for themselves as best they could. In other cases water and fodder was left to the animals in the hope that the owners could return relatively quickly. Many of the abandoned animals subsequently died, or were caught and slaughtered by the fighters operating in the area. Those people who wanted to take their animals with them could not find transport. As a result they either abandoned them or sold them for the price of their own transportation to the traders or butchers who had heard of these distress sales and were on hand to buy animals at around 10-25% of their market value. Most of the losses were suffered by settled people. The flocks kept by the transhumant population (Gujars) suffered relatively less as their owners withdrew with their animals to the more remote areas less affected by fighting, relying on grazing and abandoned crops.

11. In addition to direct damages in the form of lost animals, the sector has suffered from significant indirect losses in terms of reduced output. Animals that were not lost or sold could not be adequately fed

¹² As of end of August 2009, all 65 Union Councils (UCs) in Swat, 27 UCs (out of total 38 UCs) in Buner, 18 UCs (out of total 28 UCs) in Shangla, 14 UCs (out of total 38 UCs) in Lower Dir, 2 UCs (out of total 28 UCs) in Upper Dir, 5 tehsils (out of total 7 tehsils) in Mohmand Agency, 4 tehsils (out of total 7 tehsils) in Bajour Agency have been directly affected by the crisis.

or maintained due to disruptions caused by the crisis and milk and meat output suffered. Also, significant damage was done to animal shelters during the fighting and some of the feed that was harvested and stored for winter fodder was also lost. The Department of Agriculture, Livestock and Forestry of NWFP maintains a network of 160 veterinary institutes in the affected 5 districts, 27 of which have been damaged. Most of these facilities have suffered structural damage. In the two affected agencies of FATA, out of 78 veterinary institutes 9 have been damaged. Moreover, the stocks of medical supplies and vaccines has been destroyed, looted or vandalized.

12. *Losses of Crop Sub-Sector.* The Rabi crops, mainly wheat but also fruits and vegetables, were ready for harvesting when people abandoned their farms. As a result the wheat crop lodged and was eaten by insects and the fruit and vegetables rotted. The financial impact of the loss was not limited to the directly affected areas – prices for fruit in major cities have risen significantly as a result of the loss of production from Swat which is a major supplying area. The crisis not only disrupted the harvesting of 2008/2009 Rabi crop but because of mass evacuation of population from the area, upto 80% of the 2009 Kharif crop could not be planted. Moreover, the crops of 2009/2010 Rabi and subsequent seasons are expected to be affected by the crisis.

13. Other assets lost by farmers were seed and fertilizer stocks for 2009 Kharif season. In addition, a large number of watercourses have been damaged as have some of the terraces and bunds. In Swat district a number of orchards have also suffered damages. Although of less financial value than the loss due to crops, repairing these damages will be essential but complicated due to shortages of labor and machinery as farmers only move back gradually. A number of farmer support service structure have been damaged due to looting. These include the agriculture extension centers, and a number of nurseries that provide planting material for vegetables and fruit.

14. *Losses of Irrigation Sub-Sector.* A number of important surface irrigation schemes have been damaged. In addition many structures for control of flash floods (a regular occurrence) have been damaged or destroyed. Tube wells and dug wells have also been damaged or looted. The detailed quantification of the damages and losses is provided in the following section.

15. *Losses of Fisheries Sub-sector.* It was reported that a total of 16 trout fish ponds and 11 non trout fish ponds in District Swat have been completely destroyed. No information is available about the damages in Madyan and Kalam tehsils.

Quantification of Direct Damages and Indirect Losses

16. *Methodology for Calculating Damages/Losses:* The damage assessment is based on both qualitative and quantitative analyses of key aspects of the damages occurred in agriculture. The methodology for quantifying the damages in value terms is based on the standard approach of calculating direct damage, indirect losses and reconstruction costs. Most estimated damages and losses have been expressed in current market prices. However, in the case of livestock the damage estimates are based on herd composition and prices prior to the crisis. The Direct Damage, defined as the value of completely and partially destroyed assets included: (i) physical infrastructure, assets, and machinery and equipment losses (irrigation and drainage systems, fish ponds, storage facilities, office buildings, tractors and other agricultural machinery); (ii) output losses of 2008/09 Rabi crops that were ready for harvesting; (iii) losses of stock (livestock, inputs, and, harvested products including fodder stored in warehouses).

17. *The Indirect Losses* defined as reduced production throughout the recovery period resulting from direct damages caused by crisis include the annualized losses of future production. The indirect losses of crop production included the partial production losses of 2009 Kharif and 2009/10 Rabi seasons. The indirect losses in livestock included the loss of milk production of animals during the period, when farmers and herders were away from their areas.

18. *The Reconstruction Costs* refer to the amount of resources required to rehabilitate the partially and fully destroyed assets to their original status (i.e. the status before the crisis), and is derived by estimating the required amount of rehabilitation works costed either at recent Government schedule rates or at current market prices.

19. **Data Sources:** The assessment is based on the primary damage data compiled by NWFP and FATA governments, agricultural and livestock census data, and the information collected by the Assessment Team itself. The primary data on livestock and crop losses provided by the Government were validated through several methods including process checking of government data collection system, a sample survey in selected districts area and also by comparing the Government figures with losses reported by other international agencies.

20. Using NGOs network active in the crisis area, a sample survey was conducted among 160 randomly selected farmers in 25 villages of three most affected districts by crisis in NWFP (Swat, Buner, Shangla) to validate the livestock and crop loss figures. Despite the sample size being small, and the narrow study areas of the survey, the results of the survey have clearly confirmed the very high livestock losses (of comparable magnitude reported in Government data). FAO and UNICEF reports on Swat and other crisis areas provided somewhat higher livestock losses than in Government data. The livestock loss figures provided by the Government were also refined and modified by introducing different age groups of animals (with corresponding market prices), and also allowing for distress sales options for certain percentage of animals reported to be lost. Based on additional validation exercise, the livestock loss figures of NWFP on cattle and buffalo were reduced by 20% to reflect the lower losses shown in primary livestock loss reporting forms collected from individual districts. In addition, the livestock losses of Swat were reduced by 20% across all animal types for the same reason. The market prices used for livestock were validated in local markets of Peshawar and also through interviews with district livestock officers.

Overall Damages and Losses

21. The total losses of agriculture sector in the five districts of NWFP and 2 tehsils of FATA are estimated at PKR. 57,424 million (US\$ 691.9 million), of which 69% is in the form of direct damages of assets and stock, and 31% is in the form losses in production caused by the crisis (see Table 1 below).

22. The most losses were incurred in livestock sub-sector (PKR. 43,508 million or 75.8% of total agriculture sector losses), followed by crop (PKR 12,701 million or 22.1% of total agriculture sector losses), irrigation (PKR 1,126 million or 2.0% of total agriculture sector losses), and fisheries (PKR 89.5 million or 0.2% of total agriculture sector losses) sub-sectors.

23. The direct damages were mainly in the form of perished or lost livestock, un-harvested standing crops in the field, damaged fishery ponds, machineries, irrigation infrastructure and other Government infrastructures. The direct damage of livestock sub-sector is estimated at PKR 31,517 million. An estimated 600,000 large animals (cattle, buffalos, horse, and camels) and 679,000 of small animals (sheep, goat, asses and donkeys), and 2.2 million heads of poultry were lost. The direct damage of crop sector is estimated at PKR 6,625 million, a bulk of which is in the form of un-harvested standing crops such as wheat and vegetables. In irrigation sub-sector, the direct damage is estimated at PKR 1,126 million, and the key damage items are partially damaged main canals, flood protection embankments, tube wells, and dug wells. The direct damages of fisheries sub-sector is estimated to be around PKR 89.5 million.

24. The indirect losses are mainly in the form of lost milk production estimated at PKR 6,188 million and partially lost crop productions of 2009 Kharif crop, and 2009/2010 Rabi crop estimated at PKR 6,075 million. The indirect losses were not calculated for irrigation and fisheries sub-sectors. The following sections describe the extent of damages, issues, and the needs by NWFP and FATA separately.

Table Annex-5.1: Agriculture-Direct Damages and Indirect Losses of Agriculture Sector in NWFP and FATA

Sector	Direct Damage	Indirect Losses	Total Losses		% of Total
	<i>(PKR million)</i>		<i>(PKR million)</i>	<i>(US\$ million)</i>	
Livestock	31,517	6,188	43,508	524.2	75.8
Crop	6,625	6,075	12,701	153.0	22.1
Irrigation	1,126		1,126	13.6	2.0
Fisheries	89.5		89.5	1.08	0.2
Total	39,357	12,263	57,424	691.9	100.0
<i>(million US\$)</i>	474.2	147.8	691.9		

25. Although much of the agriculture in the crisis affected areas is carried out by small subsistence farmers, there are important linkages to existing national supply chains by these farmers, as well as by the more commercial producers of fruit, vegetable and dairy producers. The most important linkages are for purchase of inputs, such as live animals, artificial insemination (AI) services, seeds, fertilizers, medicines and chemicals; and for sale of meat, milk, fruit and vegetables. The affected areas have suffered disruption of the local supply network. Shops and stocks have been damaged or vandalized, and transporters have reduced services to and within the area. A number of traders have also left. However, national level productive capacities, demand potential and supply chains have not been affected in any significant way by the crisis. The capacity of large national suppliers, many located in the Punjab to meet the needs of the crisis affected areas, for example for animals, medicines, seeds and fertilizers has not been impacted and neither has the capacity of markets to absorb their output of meat, fruits etc.. Local traders, retailers and transporters are expected to rapidly restore services and actions to rebuild production, markets and livelihoods is not expected to be constrained by aggregate supply or demand factors. However, the pace at which local market services are rebuilt will be faster if, as suggested in the guiding principles, the recovery effort makes use of market networks rather than direct supplies by Government of relief agencies.

26. There is regular trade in livestock within the area and with the Punjab. Meat, milk and live animals are traded both in villages as well as in some of the regular markets held in larger towns. Mature animals, as well as young calves, are mainly sold outside the area. This is particularly the case for sheep and goats which are mainly raised for sale into national supply chains, particularly during Eid. In the case of buffalo, mature lactating buffaloes are brought into the area from the large markets in the Punjab and dry animals and male calves are sold back. The crisis has not had a major impact on these supply chains. The large market in NWFP and the Punjab continue to function as do the main transport linkages to these markets. In the case of feed, fodder and medical supplies only small quantities are used and these are again mostly purchased from suppliers in the Punjab whose ability to supply markets in the crisis affected areas is not a constraint to the reconstruction effort.

27. Although most farmers use their own seeds for the main field crops, these are replaced about every 5 years by certified seed. Certified seeds are mainly supplied by traders who buy them from the seed suppliers in the Punjab – the Punjab Seed Corporation being one of the largest. In the case of vegetable, the seeds are self produced, but the bulk is purchased from the large private seed producers who market them in sealed sachets. A similar situation prevails for fertilizers, pesticides and other

chemicals which are produced in outside the crisis affected areas and transported and marketed by traders.

Damages and Losses in NWFP

Direct Damages:

28. **Livestock.** The direct damage in the form of lost livestock is estimated at PKR 28,952 million. A total of 553,000 large animals (cattle, buffalo, sheep, and goat) and 594,000 small animals (sheep, goat, donkeys and asses) and 1.8 millions heads of poultry have been either perished or subjected to distress sale (around 40% of total lost animals) at prices as low as half the prevailing market prices. The livestock losses vary significantly among districts: Swat has suffered most (losses vary between 42-65% of its pre-crisis livestock population). This is followed by Buner (losses vary between 36-60% of its pre-crisis livestock population), Shangla (losses vary between 26-50% of its pre-crisis livestock population), Dir Lower (losses vary between 24-38% of its pre-crisis livestock population) and Dir Upper (losses vary between 8-17% of its pre-crisis livestock population).

29. The Livestock Department has also suffered from damages in their service infrastructure estimated at PKR 96.8 million. A substantial quantity of stored feeds mostly wheat straw was lost.

30. **Crop.** The direct damage in the form of un-harvested standing crops of Rabi 2008-09 season is estimated at PKR 6,605 million - mostly wheat (60% of total crop damage), fruits (22%), vegetables (16%). In terms of damage extent by districts, Swat incurred most losses (PKR 3,141 million), followed by Buner (PKR 1,206 million), Dir Lower (PKR 443 million), and Dir Upper (PKR 273 million). The total area with un-harvested standing crops is estimated to be around 81,600 ha of land. The damages to watercourses have been reported to be extensive. However, no reliable information on the extent of structural damages to watercourses is currently available.

31. **Irrigation.** The direct damage of irrigation sub-sector is estimated at PKR. 873.9 million. The largest share of damage is reported on flood protection (PKR 398.5 million) and surface irrigation infrastructures (PKR 383.2 million). It is reported that out of total 631 irrigation canals available in the five districts, 259 canals have been partially damaged. Out of 127 km of flood protection embankments 9 km long embankments have been fully damaged, and 25 km of embankments have been partially damaged.

32. Around 26 tube wells and 12 lift pumps have been damaged. District-wise, Dir Lower represents the largest share in total damages (39% of total damages in irrigation sub-sector) followed by Swat (35%), Buner (14%), Dir Upper (7%), and Shangla (5%).

Indirect Losses:

33. **Livestock.** The total indirect losses of livestock sub-sector in the form of lost milk production of cows, buffalo, and goat are estimated at PKR 4,994 million.

34. **Crop.** The total indirect losses of crop sub-sector as partial losses of crops of 2009 Kharif, and 2009/2010 Rabi seasons are estimated to be around PKR. 14,736 million. The lost production of 2009 Kharif is estimated at PKR 4,388 million, and that of 2009/2010 is estimated at PKR 1,687 million.

35. **Irrigation.** No indirect losses were calculated for the irrigation sub-sector.

36. **Fisheries.** No indirect losses were calculated for the fisheries sub-sector.

Damages and Losses in FATA

Direct Damages:

37. *Livestock.* In FATA, the direct damage in the form of lost livestock is estimated at PKR 2,618 million. A total of 47,000 large animals (cattle, buffalo, sheep, and goat) and 76,000 small animals (sheep, goat, donkeys and asses) and 184,000 poultry have been lost. District-wise Mohmand Agency has lost greater number of livestock (around 12% of pre-crisis livestock population have either perished or sold at distress).

38. *Crop.* The direct damage in the form of un-harvested standing crops of Rabi 2008-09 season is estimated at PKR 1,193 million - wheat (69% of total crop damage), vegetables (29%), and fruits (2%). Bajaur Agency incurred the greatest losses (PKR 790 million or 66% of total crop sub-sector losses in FATA). The total area with un-harvested standing crops is estimated to be around 18,729 ha of land.

39. *Irrigation.* The direct damage of irrigation sub-sector is estimated at PKR. 252.1 million. The largest group of damages is tube well (PKR 101.2 million), followed by damages in surface irrigation canals (PKR 58.8 million) and dug wells (PKR 47.2 million). Mohmand Agency incurred the larger losses (PKR 152.1 million or 60.2% of total irrigation sub-sector losses in FATA). In Mohmand Agency, out of total 15 perennial irrigation schemes, three have been completely damaged and 10 schemes partially damaged. Out of total 6 flood protection schemes, two have been completely damaged and four partially damaged. Also, out of total 30 tube wells 27 have been partially damaged and all of the 188 dug wells have been partially damaged.

40. In Bajaur Agency, out of 25 perennial irrigation schemes 16 have been partially damaged. Out of 12 flood protection schemes, 6 have been partially damaged. Out of total 110 tube wells 4 have been completely damaged, and 10 partially damaged. Since most canals in FATA are civil canals which get their water supply from tube wells and dug wells, the extensive damages of tube wells and dug wells pose serious threats to livelihoods of local farmers.

Indirect Losses:

41. *Livestock.* The total indirect losses of livestock sub-sector in the form of lost milk production of cows, buffalo, and goat are estimated at PKR 1,194 million.

42. *Crop.* The total indirect losses of crop sub-sector as partial losses of crops of 2009 Kharif, and 2009/2010 Rabi seasons are estimated to be around PKR 688 million. The indirect losses of 2009 Kharif is estimated at PKR 350 million, and that of 2009/2010 is estimated at PKR 338 million.

43. *Irrigation.* No indirect losses were calculated for the irrigation sub-sector.

44. *Fisheries.* No indirect losses were calculated for the fisheries sub-sector.

C. Guiding Principles and Strategies for Reconstruction:

45. During reconstruction efforts, the following guiding principles need to be adopted for the agriculture sector:

- ***Create a leading role for local people and their organizations:*** Rural communities should play a central role in planning and shaping their future livelihoods. Communities and groups/households need to be empowered so they can discuss options for rehabilitation and reconstruction, as well as demand accountability from those handling public resources. Wherever technically and economically feasible, their preferred options should be followed.

- **Market-led recovery but with well defined support from Government.** Markets must be left to play a key role in guiding existing and renewed productive patterns. While the immediate recovery phase may require extensive involvement of the central and provincial government, responsibility for planning and implementing the rehabilitation and longer term reconstruction efforts should be handed over as quickly as possible to the communities, and the local governments. Cash for work programs may be used for the rehabilitation of public infrastructure, but should be applied only to a limited extent to those people who prefer to restart their own economic activities immediately. Public-private partnerships in new agricultural investments should be undertaken to stimulate the local economy and create employment.
- **Focus on poverty reduction and livelihoods.** Support provided to the area must be equitable and transparent and it should be focused on vulnerable groups, such as the smallest farmers, the landless, and female headed households, to ensure that they are adequately covered and can participate in income generation activities.
- **Environmental sustainability.** The affected areas are part of a vulnerable agro-climatic system where poor land and water management can lead to rapid resource degradation. The rehabilitation and reconstruction efforts must try and recreate livelihoods in balance with the natural resources of the area. Enforcement of regulatory guidelines on the use of land, seeds and pesticides, on logging, on the use of water, and the disposal of wastes and effluent are needed. Given the widespread destruction that has occurred, the opportunity should be taken to introduce and disseminate appropriate technologies; modern land management practices; and appropriate varieties of trees, crops and livestock.
- **Build on past projects and programs.** NWFP and parts of FATA have benefited from a long series of project and program interventions stretching over 20 years and supported by donors such as the UNDP, WB, ADB, IFAD and bilateral donors. The National Rural Support Program as well as the Sarhad Rural Support Program have been active in the area. The projects, most of which have taken a community based approach, have proved generally successful and have resulted in a strong network of Community Organizations, and good implementation capacity in the Government. The reconstruction and rehabilitation efforts need to make full use of this experience and implementation capacity.

46. Key strategic actions that will be instrumental to this are:

- **Quick recovery of farm production systems.** Highest priority should be given to help farmers and other persons reliant on agriculture (landless labourers, traders, processors and local input suppliers) to restart production and trade. This will require help for land preparation, and the repair of animal shelters and of irrigation and drainage canals. Such activities could be supported by food or cash-for-work programs. Seeds and fertilizer should be provided, and lost or destroyed tools, machinery and equipment, and livestock and fodder stocks, would need to be replaced. Also, special credit programs for small farmers would be important for financing medium-term activities.
- **Targeting the most affected communities and households** Given the background of the crisis, the reconstruction effort has to be seen as quick, rapid and fair. Support has to be targeted to the most affected areas (i.e. those UCs, which have been subjected to military operation directly and to the poorest households). Any public distribution of assets should be targeted to those most in need and done transparently with a clearly defined arbitration and dispute settlement mechanism. The strong involvement of community-based organization will be essential in this process.

- **Introduction of appropriate new technologies** There is plenty of experience in Pakistan of introducing appropriate new technologies in crops, livestock, on- and off-farm storage and processing, and in small-scale income generation activities. The provincial and national research and extension system needs to be mobilized in support of a strong push to upgrade farming techniques in the affected areas.
- **Improvement of support services** Private and public support services will be essential for farming families to resume their activities. They will be instrumental in introducing new technologies and income generation activities, in promoting market linkages and helping to diversify production, and to provide rural financial services so that the activities become sustainable. Some services will need to be provided by the public sector, such as vaccination against epidemic disease and disease surveillance and general extension support, while others are best provided through public-private partnerships with farmers' associations, traders, input suppliers and credit institutions. Training of local people to perform certain services such as vaccinating livestock and animal disease surveillance, where services have been disrupted.
- **Supporting community and farmers' organizations.** Community and farmers' organizations (both male and female) will play a central role in the recovery process. The planning and implementation of key activities must be done in close collaboration with them. They need to play a critical role in the identification of target groups and their needs, in the distribution of inputs, and in monitoring of the assistance activities to ensure equitability and transparency. As far as possible they should be used to channel funds cash through well proven mechanisms such as village or areas block grants.
- **Informing the local people.** The active involvement of the local population in implementing and monitoring the reconstruction work will require a well defined communications strategy. The affected populations must be informed of the amounts and types of assistance being provided to the areas and be empowered to have a say in the use of funds.

47. The proposed strategy will facilitate a demand-driven rapid recovery and sustainable revitalization of the agriculture sector. Some of the activities, such as the restocking and restarting crop production, are expected to be implemented fast and would result in a fairly rapid rebound in production. However other activities, such as the introduction of new technologies and income generation activities are expected to take longer.

D. Early Recovery and Reconstruction Strategy:

Reconstruction costs

48. Table 5.2 below provides a summary of reconstruction costs. The overall reconstruction costs of agriculture sector in NWFP and FATA are estimated at PKR 22,681 million, (US\$ 284 million). The largest share of reconstruction cost is Component 1: Rebuilding Agriculture and Rural Livelihoods, which comprises of those activities relating to rebuilding livestock, crop, irrigation, and fisheries sub-sectors. Component 2: Rehabilitation and Improvement of Support Services aims at reconstructing the damaged government infrastructures in agriculture sector. The specific reconstruction items of Table 2 are discussed in the next section in the context of proposed interventions for each sub-sector. The reconstruction cost of NWFP is estimated at PKR 20,055.7 million (US\$ 241.6 million) and that of FATA is estimated at PKR 2,625.4 million (US\$ 31.6 million).

Table Annex-5.2: Agriculture-Summary of Reconstruction Costs

	PKR Million	US\$ Million
Component 1: Rebuilding Agriculture and Rural Livelihoods		
1.1 Livestock Production		
Social mobilization, community consultations, capacity building	522.0	6.3
Restocking	17,039.5	205.3
Animal Feeds	721.3	8.7
Animal Vaccination	113.3	1.4
Repair & rehabilitation of animal sheds, equipment	1,005.0	12.1
Sub-total	19,401.1	233.7
1.2 Crop Production		
Social mobilization, community consultations, capacity building	115.5	1.4
Provision of seed, fertilizer, and land preparation support	1,647.0	19.8
Replacement of fruit trees	76.8	0.9
Sub-total	1,839.4	22.2
1.3 Irrigation and Flood Control		
Sub-total	1,120.7	13.5
1.4 Fisheries		
Sub-total	89.5	1.08
Total Component 1	22,450.6	270.5
Component 2: Rehabilitation and Improvement of Support Services		
2.1 Livestock Production		
Rehabilitation of public services facilities	123.6	1.5
Training, capacity building	52.0	0.6
Sub-total	175.6	2.1
2.1 Crop Production		
Rehabilitation of public services facilities	25.5	0.3
Training, capacity building	24.0	0.3
Sub-total	49.5	0.6
2.3 Irrigation and Flood Control		
Rehabilitation of public services facilities	5.3	0.1
Sub-total	5.3	0.1
Total Component 2	230.4	2.8
GRAND TOTAL	22,681.1	284

Proposed Interventions

49. In close consultation with governments of NWFP and FATA, a set of reconstruction interventions has been identified and approximate costs have been estimated. These interventions are primarily directed at restoring the damaged livestock herds, and preventing further losses in crop production, which is being disrupted by the crisis. Longer-term interventions required for comprehensive and sustainable development of local communities are currently being considered and will be added to this list in due course.

Livestock

50. The largest financial losses to the affected population were the losses caused by death and distress sales on livestock. Hence, one of the primary activities of the reconstruction efforts should be a rebuilding of livestock base. The focus should not only be on rebuilding numbers but also on improving the quality of stock and on introducing improved husbandry practices that can maximize livestock productivity.

51. Restocking Packages. Several options¹³ have been considered including various packages of partial and full restocking of lost animals. Given the extent of livestock losses, their impacts on poor and vulnerable population, financial implications and implementation capacities of local governments, a partial restocking has been proposed here as the preferred option. The preferred option includes (i) full compensation of lost animals to affected vulnerable population (such as those living below poverty lines, single parents, invalids and women herders), and (ii) a compensation of 30% of lost animals to remaining affectees. This option would cost about PKR 17,039.5 million (US\$ 213 million) and would focus on those UCs, which have been directly affected by the military operation.

52. Given the complexity of the proposed intervention, a restocking project should be properly formulated, where scope, phasing, implementation arrangement, monitoring system, financial management and procurement aspects should be thoroughly designed in close consultation with local governments, NGOs and beneficiaries. However, at this early stage, the following criteria could be considered for the intervention:

- Three years' of implementation period with realistic phasing (40%, 40% and 20%);
- No cash compensation - only in kind (animals);
- Restocking of key species only (cattle, buffalo, sheep, goat, and poultry), and only with animals that are adapted to agro-ecological zone;
- Breeding quality and productivity of procured animals should be at least the same or better than the lost animals;
- The vulnerable groups should be given priority in terms of phasing;
- Restocking should be implemented in close coordination with animal feed and vaccination support (discussed below);
- During procurement, a priority should be given to local purchases wherever possible;
- Proper livestock quarantine and sanitary measures should be put in place before restocking.

53. A livestock restocking package should include animals, as well as supplementary feed, vaccination and standard medication such as de-worming for cattle, sheep and goat. The supplementary

¹³ The following restocking options have been considered:

- (i) Option 1: 100% compensation of all lost animals with cost of PKR 40,415 million (USD 487 million);
- (ii) Option 2: 50% of compensation of all lost animals with cost of PKR 20,208 million (USD 244 million); and
- (iii) Option 3 (preferred option): 100% compensation to vulnerable groups, who have lost their livestock and 30% compensation of the lost animals to remaining affectees with cost of PKR 17,039.5 million (USD 205.3 million).

feed for the procured animals is calculated as 10-days need per head with overall cost of PKR 721.3 million (US\$ 9 million). The vaccination for the restocked animals is expected to cost PKR 113.3 million (US\$ 1.4 million).

54. Provided that restocked animals are of improved quality, it should be possible to obtain higher productivity than in the pre-crisis situation. The provision of livestock needs to be balanced with a household's ability to feed and maintain animals. A special package should be provided to the transhumant population comprising improved goats, sheep and essential medicines.

55. The affected livestock farmers also need additional support in repairing the critical animal shelters, acquiring essential utensils and equipment, which is estimated at PKR 1,005 million (US\$ 12.1 million).

56. Improvement of Support Services. A major effort is needed to rebuild and strengthen the livestock support services in the affected areas. As mentioned above, some 36 veterinary institutes/station have been damaged and looted and need to be rehabilitated. These reconstruction efforts will need to be complemented by improved training for livestock and veterinary staff and for farmers through group training. The total financing requirement for such activities is estimated to be around PKR 175.6 million (US\$ 2.1 million).

Crop

57. The financial losses due to damage of standing crops (Rabi 2008/9) and the inability to fully plant the following Kharif (2009) and Rabi (2009/10) crops are difficult to compensate for, except through direct cash transfer. However, the Government and donors should help farmers restart their farming systems by providing essential input to prepare and plant their fields, restore their orchards, and repair and/or replace damaged farm machinery, equipment and irrigation infrastructures. Moreover, a strong effort is needed to improve crop varieties, reduce crop losses and optimize the use of inputs including water, fertilizer and pesticides.

58. Agricultural Input Packages. The Government should provide essential inputs and land preparation support to farmers for 2009/10 Rabi season on fast track basis so that they do not miss the chance for cultivate the crops on time. These inputs should reach farmers by no later than end of October 2009. The proposed restoration package includes fertilizer and seeds for wheat and vegetables and land preparation support is estimated at around PKR 1,647 million (US\$ 19.8 million) - equivalent to covering 30% of total needs of critical inputs for key crops (for wheat and vegetables). This support could be provided as a subsidy to purchased inputs and should be given to small and poor farmers on preferential basis.

59. Repair and Improvement of On-Farm Land and Water Facilities. A number of watercourses that were damaged due to the crisis will need to be repaired. However, where possible these repairs should try and bring up the watercourses up to the same level as is aimed for under the National Program for Improvement of Watercourses - lining of the first 15% of the watercourse in fresh ground water areas and 30% in saline areas. In addition, in some areas, for example in very sandy soils, piping and drip irrigation facilities should be introduced. Some 5-10 farmers should be identified who would be willing to undertake such improvement on a cost sharing basis with the Government. Laser land leveling has demonstrated major benefits in terms of water use efficiency. The existing land leveling program, which is on a full cost recover basis, should be extended to farmers in the affected areas with enhanced a 50% subsidy.

60. Improvement of Support Services. A major effort is needed to promote a more commercial and sustainable cropping system. This will require training of farmers, development of community

organizations, and improved linkages with traders and wholesalers, including with supermarkets. Priority activities will include repair, and rehabilitation of damaged extension centers, the farm services centres, and the research centers. The reconstruction of the damaged public sector infrastructure is expected to cost around PKR million 49.5 million (US\$ 0.6 million).

61. Farmers in the area should also be introduced to improved practices such as reduced/zero tillage practices, organic farming, protected agriculture (plastic houses), deep ploughing in fallow lands, and the use of qemosyl as a moisture retention mechanism in sandy soils. The Department should enter into an agreement with a few progressive farmers to use their farms to demonstrate these techniques. An effort should also be made to improve kitchen gardening which should focus on women. The Seed Act of 1976 should be extended to FATA to ensure proper certification of seeds.

62. The identification of eligible farmers for support should be done through local communities. All farmers benefiting from these packages should be provided at least 2-3 days training in crop management. Such courses can be organized by the Agriculture Extension staff or by NGOs. Certification of training should be a prerequisite for obtaining the seeds, fertilizer, implements package. There are large seed and fertilizer producers in Punjab from which inputs can be purchased for distribution in the affected areas. In the case of improved support services, this work should be shared between the Department of Agriculture, Livestock and Forestry and with NGOs such as the NRSP. The former would take responsibility for the more technical aspects of research and development, while NRSP would take responsibility for the community and farmer training aspects.

Irrigation

63. Rehabilitation of Damaged Irrigation and Drainage Facilities. Since all damaged schemes and infrastructures identified under this section are public investments and have key importance for communities, the provincial and FATA governments are expected to rehabilitate them fully. The rehabilitation process is expected to take two years and the total cost of rehabilitation is estimated at PKR 1,120.8 million (US\$ 13.5 million). The rehabilitation works should be properly prioritized and phased in. During the upcoming winter season flood protection structures and diversion bunds should be rehabilitated on priority basis to avert further losses and damages to existing structures and ensure the Kharif crop. Also, during this period the high priority irrigation schemes should be restored. The remaining works could be done during the second phase. Also, the repair of damaged offices and buildings belonging to the Irrigation Department should be carried out on a priority basis. The estimated cost of repair is PKR 5.3 million (US\$ 0.1 million).

Fisheries

64. Rehabilitation of Fish Ponds. The estimated cost for reconstruction of damaged and destroyed fish ponds, including purchase of lost or damaged inputs and repair of damaged buildings, is around PKR 89.5 million (US\$ 1.1 million).

ANNEX 6 – PRIVATE SECTOR

ANNEX 6: PRIVATE SECTOR

A. Sector Background:

1. The private sector has played a fairly vital role in the development of areas in Malakand Agency, Swat, Buner and Dir. The main industries of these areas are: mining (marble, granite, gemstones), marble processing, horticulture, mini hydro power generation, flour mills, rice mills, silk mills, furniture, vegetable & ghee mills, rubber & plastic goods, handicrafts, and cement based products. Many of these products are used in the area, whereas marble, silk, gemstones and furniture are transported to other parts of the country. The area with maximum private sector activity is Swat district, except for marble mining and processing in which Buner is leading the region.

2. The industrial sector comprises mainly of small and medium scale industries and no large industrial establishments, and a host of informal establishments. The total number of industrial establishments in Malakand Division is estimated to be 496, with a capital investment of about Rs. 2,381 million. Tax incentives and market potential has encouraged setting up of business activities in this region, even though agriculture has been the mainstay of its economy. Besides, in certain districts like Swat and Buner, remittances from abroad and from within the country, have improved the standard of living and have contributed towards development of the private sector.

3. Tourism has grown as a major industry over the past three to four decades, which has been a source of employment and income generation. Swat had turned into a major attraction for tourists - mainly from within the country and the prospects for international tourism have been limited. This resulted in a big uplift in hotels and ancillary businesses and became very important in the economy of the region. This is supported by a large network of shops and businesses all over Swat as trading in the region has grown, creating employment opportunities. It is estimated that about 40,000 persons are associated with the tourism and ancillary industry.

4. According to the FATA Directorate of Industries, 120 industrial units are operating in Bajaur Agency and 130 in Mohmand. The types of industry include stone processing, textile weaving, furniture manufacturing, and firearms manufacturing.

B. Scope of Study

5. This Damage Needs Assessment attempted to prepare an inventory of damaged assets belonging to the private sector. The sub-sectors of private sector activity aimed for the study included:

- a) Shops
- b) Mines and minerals
- c) Manufacturing industry
- d) Gems and jewelry
- e) Banks and financial institutions
- f) Hotels, restaurants and other tourism related activities
- g) Any other activities which can be categorized as economic activity in the private sector

C. Data Collection Methodology

6. A serious constraint in the private sector was the absence of baseline data particularly for the SMEs. The baseline data are very useful in placing the damage in overall perspective as well as establishing credibility of the damage data and needs assessment. In the absence of the baseline, the team developed models based on certain assumptions to estimate damages and needs.

7. Meetings were held with the officials of NWFP Industries Department for collecting the baseline and damage data, but they showed their inability to provide the data due to security concerns in the affected areas. The team was informed that damage assessments have been filed with the District Coordinating Officers (DCOs) and *Tehsildars*, but the same could not be collated and provided to the teams. Subsequently, meetings were held with the officials of NWFP and FATA Secretariats and with the Provincial Disaster Management Authority (PDMA) for data related to the selected areas.

8. Despite rigorous follow-up with government agencies, very limited data was made available to the team working on this exercise. As a result, the DNA exercise was left with no other option than to take a more desk-based approach relying on existing data sources for other sectors for baseline construction and percentage based (instead of inventory based) damage assessment and on proxy indicators. For example, the estimation of damages to shops and hotels is based on damage data from other sectors, including housing, and extrapolated accordingly. In absence of data from NWFP Government and the sources mentioned above, other sources of data were also tapped. The Sarhad Chamber of Commerce and Industry (SCCI) was contacted for data on industry. However, no data was available with SCCI as they mentioned that it was difficult for them to access crisis areas. Small and Medium Enterprise Development Authority (SMEDA) was then contacted and was able to provide a general assessment and their report related to the affected areas. The Silk Looms Association in Swat was also contacted for data on damages to the power loom sector. No data for rest of the sectors (mentioned in Scope of Study above) was available.

9. To augment the available data, surveys were conducted within designated parts of the crisis hit areas by Partner Organizations (PO). This exercise was aimed to collect data reporting the number of shops that had been damaged or destroyed as well as the total number of shops from sample areas chosen from amongst the areas most affected by the crisis within the districts.

10. With the current quality of available data, this DNA exercise is only a best guess of damages in the affected areas. However, it does provide an estimate of the degree of damages suffered by the private sector in the current crisis.

D. Damage Assessment and Methodology

11. The preliminary estimates of total damages in the affected districts and the two agencies have been calculated separately for shops, industrial and business sectors, and hotels. The consolidated amount of estimated damages for these sectors comes to about Rs. 917 million (see table below) equivalent to US\$11 million.

Table Annex-6.1: Private Sector-Summary of Damages

Category	Rs. Million
Shops	396
Industry and Businesses	341
Tourism & Hotels	180
Total	917

12. **Shops:** The survey data available regarding damage inflicted to shops, simply listed the number of shops that were damaged or destroyed during the military operation in the designated area. In the absence of sample sizes (the total number of shops in the surveyed area), an indirect method has been employed using census figures for employment to estimate the same. The Census data under category “Industry Division 6” comprises “Wholesale Trade, Retail Trade, Restaurants, and Hotels” was used. According to the model devised, it is assumed that 80% of the number of self-employed and privately employed persons amongst Industry Division 6 approximates the number of shops in the given area. The damage ratios were used from the available data for damages to local housing units. Damage was assumed to be indiscriminate with a similar proportion of housing units and shops afflicted during the crisis with the exception of Swat, where damage to shops was estimated as twice the corresponding value from housing data. The exception in case of Swat was incorporated since shops had been specifically targeted in that region. From these damage figures and the estimated number of shops, the number of partially damaged and totally destroyed shops is calculated. One further assumption is made before calculating the costs for repair and reconstruction according to which, 60% of the shops are assumed to be “*pukka*”. Subsequently, the average size of a shop and the predicted repair costs per unit area are used to estimate the financial assistance needed for reconstruction of shops in a given area. The results are summarized in the following table.

Table Annex-6.2: Private Sector-Agency and District-wise Breakdown of Damage Estimates to Shops

Region	No. of Houses	Estimated Number of Shops	Percentage of Shops Damaged/Destroyed		Estimated No. of Shops Damaged/Destroyed				Average Unit Area (Sq. Ft)	Estimated Reconstruction Costs ^{**} (Million PKR)
			Fully Damaged	Partially Damaged	Fully Destroyed		Partially Damaged			
					Kucha	Pukka	Kucha	Pukka		
Shangla	69210	6688	3.5	3.8	93	139	101	151	175	34.4
Lower Dir	94505	8345	0.8	1.4	25	38	45	68	175	11.1
Upper Dir	86166	4782	3.47	3.76	66	100	72	108	175	6.4
Buner	75848	5985	2.0	2.0	48	72	48	72	175	17.3
Swat	185961	21735	5.5*	6.5*	480	720	562	842	175	181.9
Mohmand Ag.	52086	4701	6.0	2.0	113	169	38	56	175	33.0
Bajaur Ag.	92174	8319	9.5	8.9	316	474	296	444	175	112.2
Total	655951	60555	-	-	1141	1712	1161	1741	-	396.2

Notes: * For Swat, the estimate of damages is considered double compared to other districts.

** The cost of reconstruction has assumed at Rs. 700 per sqft for *pukka* shop and Rs. 425 per sqft for *kucha* shop.

13. **Industry and Businesses:** The power loom sector has been well established in Swat due to tax advantages, skill availability and associated benefits of a developed cluster. Discussions with the head of their association indicates that 11 units out of 65 are damaged, which is equal to 17% of the units. As more extensive data may become available later, for the time being it is assumed that the damage rate to industrial units and businesses would be the same as that of the power loom sector, i.e. 17%. This rate is applied to the investment cost of the industrial and business units as provided by the Government. However, the damage estimate does not include indirect losses such as loss of business and employment in the private sector. Assessment of these costs cannot be calculated at the present time given the dynamic circumstances of an evolving situation and these may be taken up in the detailed assessments as part of the PCNA. The DNA costs are shown in Table 3 below.

Table Annex-6.3: Private Sector-Consolidated Damages to Industry and Businesses

District	Investment	Damages Costs
	<i>(Rs. in million)</i>	
Swat	902.22	153.38
Buner	887.12	150.81
Dir	199.41	33.9
Shangla	12.2	2.07
Total	2,000.95	340.16

14. **Tourism & Hotels:** Discussions with the officials indicate that about 500 hotels have been operating in the Malakand division out of which about 60 were damaged in the crisis, which is 12% of the total hotels. Some of these were prominent and popular hotels like Pakistan Tourism Development Corporation (PTDC) Hotel at Malam Jabba, Pamir Hotels, and Rock City Hotel at Fizzagut, which received extensive damage before and during the military operation. However, actual damage could not be assessed. An estimate of damage to hotels is given in Table 4 below, based on an assumed damage ratio of 50/50 across fully and partially damaged hotels (derived from housing sector damage trends):

Table Annex-6.4: Private Sector-Consolidated Damages to Hotels

Total No. of Hotels	Est. Total No. of Hotels Damaged	Est. Total No. of Hotels Completely Damaged	Est. Total No. of Hotels Partially Damaged	Estimated Hotel Size (Sq. Ft.)	Estimated Damage Rate per Sq. Ft.* (PKR)	Reconstruction Cost (PKR million)
500	60	30	30	5,000	800	180

**This cost estimate includes construction, furnishing and associated costs*

15. State Bank of Pakistan’s Provincial Office in Peshawar was contacted to collect data on damages to bank branches in the affected areas. Data about any physical damages to banks was not available. However, the information from the State Bank shows that 16 banks were looted in the various districts of the affected areas, and most of the branches remain closed for business. The DNA does not include the assessment of damages to the commercial banks and a separate exercise will be required to assess these damages.

E. Recovery Needs

16. Historical evidence indicates that there are no ‘quick-fix’ solutions in the post crisis areas and the risk of relapse into crisis remains high for at least ten years. In the short to medium term the recovery needs will include restoration of small businesses and industrial units. Restocking businesses and bringing industries to minimum operating standards will require access to finances from domestic and foreign remittance, and micro-finance programs. The construction industry will need an immediate boost through affirmative policies of hiring local labor and materials for recovery and reconstruction works. Restoring trade infrastructure which caters to the business needs of a wide variety of industries and local business as well as farm to market access for agricultural produce will need restoration, as part of the early recovery efforts. Restarting of existing businesses will need to be addressed, as it will not only augment business activities, but will also facilitate reemployment, since about 30,000 workers have reportedly been rendered jobless in just the textile sector.

17. For FATA, prospects for industrial development in the tribal areas may remain dim in the short- to medium-term. However, supporting new industries on the fringes of the tribal areas may be explored as the best approach to sustainable growth. USAID plans to support setting up Reconstruction Opportunity Zones (ROZs) in FATA agencies. Efforts should be closely coordinated with USAID for any reconstruction programs in FATA areas.

18. In Mohmand Agency, irrigation water is available in relative abundance, as compared to other agencies, and good potential exists for agriculture and horticulture. Similarly, in Bajaur Agency, agriculture is the main contributor to the local economy, supported by non-farm economic activities. Due to the insurgency, access to market has been severely restricted for the local people affecting trade and businesses from the settled areas as well. FATA has proven reserves of many minerals like copper, coal, chromite, granite and marble, which need to be exploited on modern technological basis, and the products are prepared for export markets. Development of management techniques, skills, and improved technology need to be facilitated on priority basis. Some of this has already taken place and is a doable thing. For example, the Pakistan Hunting and Sporting Arms Development Company, a newly formed government organization, has improved the quality and production of handguns in the formal and the informal sector in NWFP and FATA. This has been done in a short period by introduction of improved management skills and technology, and exposure visits to foreign countries.

19. The local economies of the affected areas, particularly of FATA, are mostly undocumented and operate in the informal sector. Corporate laws and regulations have not been extended or implemented in most of these areas, which is one of the reasons for lags in their development, as access to finance from the formal sector becomes unavailable. Long-term recovery needs may include improving technological readiness in the manufacturing and services sectors and investing more resources in research and development; and adopting international standards of corporate management and sophisticated business practices for greater efficiency and higher competitiveness.

F. Reconstruction and Recovery Strategy/Recommendations

20. The following is a set of recommendations which can be used for reinvigorating the private sector activity in affected areas.

Immediate Restoration:

- Owners of damaged shops and small businesses should be compensated as follows: (i) full compensation for estimated loss to affected vulnerable population (only for the extremely vulnerable, ultra poor groups and marginalized families, including those headed by women and people with disabilities), and (ii) a compensation of 30% to remaining affectees. This option would focus on those UCs, which have been directly subjected by the military operation.
- Experience from other post-crisis countries¹⁴ show that as part of the immediate restoration, public expenditure should act as a bridge up to the period when private confidence is substantially restored and investments start picking up. This is estimated to be approximately 2 years after the end of crisis and before the setting in of long-term development policies and programming.
- Efforts to restore private sector investment must focus on supporting small and medium enterprises (SME) affected by disrupted trade linkages and interruptions due to the crisis by providing access to financing, business advisory services, and continued improvements to the business enabling environment. The bulk of private sector industries in Swat, Shangla, Lower Dir, and Buner belong to construction and manufacturing sectors. Both these sectors shall need substantial support from the public sector for reconstruction needs, investment and working capital requirements. Reconstruction costs for industries have been discussed earlier.
- The average annual investment figures given above have been computed from the average of twenty year investment data history figures reported by the GoNWFP for the given industrial sectors by adjusting it against inflation. The estimated investment and working capital requirements quoted above cover the loss of investment suffered by the crisis-hit areas during 2008-2009 compared to corresponding investment trends elsewhere in the province. This figure also includes the estimated investment and working capital requirements for 2009-2010.
- The manufacturing sector could be offered financial support to meet the investment needs estimated above through the following three options: (1) access to easy loans from public and private sector, (2) rural micro-finance, and (3) credits for restoration of industrial units.
- Credit lines can be extended to existing banks and microfinance institutions to disburse the funds to the private sector. To respond to the immediate recovery needs, grant-based programs aimed at restoring income generating livelihoods and lending and saving products should also be instituted in parallel. Subsidies may be considered for private sector investments on criteria such as (i) supplement private investment on a 30/70 basis; (ii) establishing a subsidy disbursement mechanism which would prevent these subsidies being used for any other purpose for which they are originally intended; (iii) beneficiaries produce and disburse first their compensation before using the subsidy; (iv) only pre-crisis existing businesses should be eligible; (v) the project presented by the entrepreneur should be economically and financially viable.

¹⁴ Georgia Post-Conflict Joint Needs Assessment Report

- The construction industry shall need support in ensuring supply of construction and building material to the affected areas. In addition to this, local firms and manpower may be accorded priority during reconstruction work planned in the crisis hit areas, hence creating opportunities for business and earning of livelihood.
- Business development services should be provided free of cost to small entrepreneurs. For this, the Small and Medium Enterprise Development Authority (SMEDA), NWFP Department of Industries and FATA Directorate of Industries can play a vital role.
- Common Facility Centers (such as testing laboratories, tool making) along modern lines should be developed for different clusters in Swat, such as cosmetics, silk looms, honey processing, fruits and vegetable packaging, etc., which can also serve as training and research facilities for the entrepreneurs of those areas.
- An affirmative-policy step undertaken in Afghanistan's post-crisis reconstruction was the initial emphasis on utilizing local enterprises as subcontractors to large international contractors, thus exposing local businesses to the quality of work and international standards required in the reconstruction of the regional highway network. For the crisis affected areas of Pakistan, similar policy actions can contribute to the immediate restoration and recovery needs where impetus is provided to employment and skills labor requirements for reconstruction efforts from the existing human and technical resources of the areas.

Medium to Long-Term Measures:

- The need for a 'Private Sector Development Fund' may be considered specifically for the affected areas for facilitating rapid development of the area. The size of the Fund can be worked out once more tangible data is available. However, as an initial estimate, a Rs. 1 billion fund can be considered. The key features of this Fund could include, but not limited to:
 - i. Taxation and regulatory reforms to improve business climate;
 - ii. Up-gradation of skills and necessary public institutional arrangements including improvement in information and communications infrastructure;
 - iii. Standardized quality, productivity, and enhanced conformity of products with WTO requirements through restructuring quality standards institutions, defining clear performance standards, and strengthening the environment for intellectual property rights protection;
 - iv. Fostering public-private partnerships through improving the legal and regulatory environment for PPPs and addressing institutional and capacity issues;
 - v. Setting up concessions or developing other instruments for private sector participation in projects that can be structured to attract investments from private sector.
- A key challenge for medium to long-term reconstruction efforts will be to rebuild the investment and business confidence environment in the crisis affected areas. For this purpose, establishing a regulatory framework for insurance services industry needs to be explored as a strategy for responding to the post-crisis reality of high cost of doing business.

- **Human Capital:** Strengthening skills and imparting vocational training for improving the quality of workforce to gain higher productivity and for improving the standards of business processes and service industries including tourism.
- **Affirmative Policies:** The government should announce and implement policies which should give preferential treatment to crisis areas, for activities such as procurement of construction materials, employing labor from local markets where possible. Provide framework for management of risk of materials shortages and inflation.
- **Infrastructure:** Investments should be made on priority basis in restoration of basic physical infrastructure directly linked to trade and business activities. This will include roads, power and water supply and communications links.

ANNEX 7 – ENERGY

ANNEX 7 - ENERGY SECTOR

A- Introduction

1. In the crisis areas of NWFP and FATA, the supply of electricity is managed by PESCO and TESCO respectively through transmission lines, grid stations and distribution lines. There are no public sector power generation units in these areas. The network consists of 5500 km HT line, 3200 km LT line, 312 km STG line, 1660 km distribution line and 5500 transformers in the five crisis affected districts of NWFP and 165 km of HT line, 235 km of LT line and 303 transformers in two agencies in FATA. Among the other energy consumption utilities, gas supply is available in the district of Swat only. However the supply of gas has insignificant reported damages.

2. The Assessment is based on the data provided by PESCO, TESCO and SNGPL. The damage data was partly verified by the assessment team through field visits and by using staff of other ADB financed projects in the area. The damage caused due to crisis resulted in disruption of power supply and induced direct as well as indirect losses to the utility companies. The distribution companies have already started rehabilitation of the system, using resources from other project funds, and have partially restored electricity supply in the areas where security situation permitted restoration works.

B- Damage and Needs

Power Sector

3. The direct damage in power supply sector is categorized to immovable assets and stock of the two DISCOs. Whereas, indirect loss is categorized as the loss of revenue sustained by the DISCOs, in terms of electricity units not sold during the crisis period. The direct damages in power sector amounts to PKR 769 million in NWFP and PKR 182 million in FATA. The indirect losses in terms of revenue-loss during the period May to Aug 2009 in NWFP are estimated to be 1,045 million while it is PKR 118 million in FATA.

4. In NWFP, PESCO had also been using its in-house resources (material, equipment, funding etc.) for energizing IDP camps in various parts of NWFP at a cost PKR 19.1 million (cost of equipment plus installation cost) on the directives of Government. In addition, the electricity consumed in the camps till September 2009 amounts to PKR 236 million, which is still unpaid. The expenditure incurred by PESCO on relief camps will be paid by the government¹⁵.

5. The damages in power sector are summarized below:

¹⁵ Providing electricity to the relief camps is the Government's responsibility. Government on many instances in the past had been transferring its liability on DISCOs for paying for the temporary services provided to the relief camps (a typical example is Earthquake of 2005, where Government directed the distribution companies to provide supply to the camps and the affected areas free of charge). This adversely affects the DISCOs which on one hand suffer the loss of assets and on other, have to pay for the liabilities of Government.

Table Annex-7.1: Energy-Damages in Power Sector

Type of Damage	Damages Costs	
	PKR (million)	US\$ (million)
Direct Damages		
PECSO (NWFP)	769	9.6
TESCO (FATA)	182	2.3
Sub-total	951	12
Indirect Losses		
Revenue Loss PESCO	1,045	13.1
Revenue Loss TESCO	118	1.5
Relief to IDP Camps PESCO	255	3.2
Sub-total	1,418	18
Total Damages (Power Sector)	2,369	29.6

6. During the crisis, 17% of the power line network got affected, with much of the damages afflicted to HT lines. The scale of damages is relatively lower in FATA as compared to NWFP. The cost of restoration and rehabilitation to transmission and distribution lines is presented in Table 2 below:

Table Annex-7.2: Energy-Transmission and Distribution Lines

District/ Agency	HT Lines			LT Lines			STG Lines			Distribution Lines			Total Cost PKR (m)
	Comp. Destroyed (KM)	Partially Damaged (KM)	Cost	Comp. Destroyed (KM)	Partially Damaged (KM)	Cost	Comp. Destroyed (KM)	Partially Damaged (KM)	Cost	Comp. Destroyed (KM)	Partially Damaged (KM)	Cost	
Buner	75	300	156	50	150	55	-	5	2	5	4	1	214
Dir Lower	50	200	104	60	10	32	4	10	0	10		2	138
Dir Upper	20	50	32	4	10	4		10	3	8		2	41
Shangla	10	30	18	5	15	6			0	3		1	24
Swat	100	200	144	80	150	70	1	5	2	30		6	222
Total NWFP			454			167			7			12	639
Bajaur	78		62	86		43							105
Mohmand	42		34	40		20							54
Total FATA			96			63							159

7. Other than the transmission and distribution lines, the most significant damages recorded were the destroyed/stolen distribution transformers of various capacities ranging from 25 KVA to 200 KVA. Much of this equipment loss was reported in Swat, Buner and Bajaur which collectively constitutes three-quarter of the total damages (954 transformers) in the crisis areas. The cost of restoration for transformers is presented in Table 3 below:

Table Annex-7.3: Energy-Transformers

District/ Agency	Completely Destroyed (No.)	Partially Damaged (No.)	Total Cost PKR (million)
Buner	230		86.3
Dir Lower	80		30.0
Dir Upper	30		9.9
Shangla	10		3.0
Swat	350		141.6
Total NWFP	700		270.8
Bajaur	176		88.0
Mohmand	78		23.1
Total FATA	254		111.1

8. There were no reported damages to grid stations in FATA. Swat suffered the highest losses especially at the grid station in Mingora where both the buildings and equipment were destroyed. Grid stations in the remaining four districts sustained partial damages that can be reconstructed or rehabilitated. The cost of restoration to grid stations, allied facilities and equipment are presented in Table 4 with an estimated restoration cost of PKR 174.2 million.

Table Annex-7.4: Energy-Civil Works (Grid Station and Allied Facilities and Equipment

Description	District/ Agency	Completely Destroyed (No.)	Partially Damaged (No.)	Total Cost PKR (million)
Grid Stations, Buildings and Allied Facilities	Buner		1	1.4
	Dir Lower		1	2.0
	Dir Upper		1	1.7
	Shangla		1	1.2
	Swat	1	2	37.8
Grid Station	Swat	15		110.0
Equipment		14		20
Total				174.2

9. There are reported damages to administrative and residential buildings (include offices, rest houses, residences and other building units) in NWFP only. Again the scale of damages is highest in Swat (80%). The damages are partial in the remaining four districts of NWFP and can be rehabilitated. In total ten building units were completely destroyed while 25 of them got partial damaged. The cost of reconstruction and rehabilitation is tabulated below:

Table Annex-7.5: Energy- Administrative and Residential Buildings

Description	District/ Agency	Completely Destroyed (No.)	Partially Damaged (No.)	Total Cost PKR (million)
WAPDA Offices	Buner		3	3.2
	Dir Lower		1	2.0
	Dir Upper		1	1.4
	Shangla		2	2.6
	Swat	2	8	17.2
Rest House	Swat	1		41.9
Residencies	Buner		5	5.4
	Dir Lower		1	2.0
	Dir Upper		1	1.7
	Shangla		2	2.2
	Swat	7	1	20.0
Total				99.7

10. The overall cost of reconstruction and rehabilitation of the power sector are summarized in Table 6. The cost of restoration required is \$ 20 million, with \$16.3 million for NWFP and \$ 3.7 million for FATA. Restoration of transmission and distribution network alone accounts for 75% of the total damages. It is in addition to the losses incurred on relief to IDP camps which amounts to \$ 3.2 million.

Table Annex-7.6: Energy- Summary of Reconstruction and Rehabilitation Cost in Power Sector

Description	PECSO (NWFP)		FATA (TESCO)		Total	
	PKR	US\$	PKR	US\$	PKR	US\$
Transmission and Distribution Lines	639	8.0	159	2.0	798	10.0
Transformers	271	3.4	111	1.4	382	4.8
Grid Station Allied Facilities and Equipment	174	2.2			174	2.2
Administrative and Residential Buildings	100	1.2			100	1.2
Contingency	118	1.5	27	0.3	145	1.8
Total	1,302	16.3	297	3.7	1,599	20.0

Gas Sector

11. The piped gas network is available only in Swat which is managed by SNGPL. During the crisis, damages to the tune of PKR 7 million have occurred while the indirect losses on account of revenue loss during the period (Jul 08 to May 09) are PKR 30 million. The cost of

reconstruction and rehabilitation works is 11.4 million (\$ 0.14 million) that includes primary to tertiary pipe network, domestic meters and valves.

C- Early Recovery and Reconstruction Strategy

12. In power sector, the early recovery has already begun in order to facilitate and reintegrate the IDPs in their areas. Restoration of power supply is one of the essential activities in bringing the daily life of the IDPs back to normal. The early recovery, reconstruction and long term development is meant to (i) immediately restore power supply in the crisis afflicted area by restoring the functions of distribution centers and repair or reconstruct the transmission and distribution lines (ii) reconstruct and rehabilitate the civil infrastructure (iii) plan and prioritize transmission and distribution improvement program (iv) improve power supply coverage especially in FATA (v) ensure measures needed to increase revenue and minimize losses (vi) explore and increase other sources of energy generation in the area. The phased approach is explained below:

Early recovery, short to medium term

- Payment of the expenditure, made on providing electricity to the camps (including electricity bills), by the Government to PESCO as a grant
- Provision of equipment and temporary shelter to damaged distribution centers
- Restore the functions of distribution centers
- Immediate procurement and installation of materials for restoring transmission and distribution network
- Repair and rehabilitation of damaged buildings
- Initiating reconstruction of completely destroyed buildings
- Setting up implementation arrangements for early recovery and medium term development intervention
- Performing development deficit analysis in the sector

Long term

- Hiring of consultants
- Performing long term development planning for planning transmission and distribution improvement program, increasing power supply coverage, exploring new/alternate sources of energy
- Prioritized rehabilitation, reconstruction and new construction of energy infrastructure
- Continuation of implementation arrangements
- Long term sustainable development and continuation of financing

ANNEX 8 – TRANSPORT

ANNEX 8 – TRANSPORT SECTOR

A- Introduction

1. The transport sector in the crisis area of NWFP and FATA solely depends on the road network. In NWFP, the road network in the five crisis affected districts consists of 198 km of National Highways and 145 km of Provincial Highways managed by the respective National Highway and Provincial Highway authorities. The remaining road network consists of 5,156 km of district roads of which about 2,000 km are paved and managed by W&S Department and Local Govt. Due to deferred maintenance backlog, about three quarter of these roads have poor to bad condition. In FATA, the road network in two agencies consists of 1,256 km of Agency Roads managed by Communication and Works Department. Out of these roads, about 783 km are paved while rests are earthen/unpaved roads. In addition to aforementioned road network both in FATA and NWFP, there are streets in urban areas and community roads in rural areas. Swat in NWFP and Mohmand in FATA has the lowest road density (0.2 km/sq.km) amongst the affected areas.

2. This assessment is based on the data provided by the NHA, FHA, W&S, C&W, CAA, ACC and LG&RDD. The road damage data was partly verified by the assessment team through field visits and by using staff of other ADB financed projects in the area. The magnitude of damage was not intense and as a result there were only localized and minimal constraints on mobility and accessibility posed by damage road facilities. The only exception was destroyed or damaged bridges or culverts. During early recovery, temporary measures are being taken by government agencies with the help of Army and line departments in order to ensure the serviceability.

B- Damage and Needs

Roads

3. The damage during the crisis in road sector consists of i) damages to bridges, cross drainage structures, retaining and slope protection structures ii) potholes and ditches in pavement due to shelling or IEDs, iii) road formation damage due to tracks of tanks and iv) pavement damage due to temporary blockades on roads. The total damage to road infrastructure stock is estimated to be around PKR 700 million and is presented below:

Table Annex-8.1: Transport-Summary of Road Damages

District/ Agency	Affected Bridges				Affected Road Structures and Formation		Total Cost of Damages PKR (million)
	Completely Destroyed	Partially Damaged	Total	Cost of Damages PKR (m)	Length (KM)	Cost of Damages	
Buner	2	1	3	42.5	246	34.0	76.5
Dir Lower	3		3	12.2	198	19.6	31.8
Dir Upper	5		5	50.5	150	29.4	79.9
Shangla	1	3	4	7.7	72	18.0	25.7
Swat	29	14	43	251.9	663	138.7	390.6
Total NWFP	40	18	58	364.8	1,329	239.7	604.5
Bajaur		1	1	7.0	131	58.4	65.4
Mohmand	1		1	10.4	168	22.2	32.6
Total FATA	1	1	2	17.4	299	80.6	98.0
Grand Total	41	19	60	382.2	1628	320.2	702.5

4. In addition to above, the public sector entity, Abaseen Construction Corporation also sustained damages to the equipment, machinery and stock of materials at its asphalt plant at Gulibagh, Swat. The direct damages are estimated to be PKR 32 million while the losses in terms of revenue generation from the same equipment and machinery are estimated to be PKR 1.5 million. The replacement cost of the machinery is PKR 61.2 million.

5. As mentioned above, about three quarters of the road network in NWFP16 was in poor to bad condition before the crisis, therefore the affect of crisis (passage of tanks on pavement, potholes, increase in traffic due to military and IDPs movement, damages to road structures etc.) have minimal effect on worsening the already deteriorating road condition. The rehabilitation of crisis-induced damages only will bring little value addition and not safeguard such an investment. As part of the DNA strategy, it is therefore proposed that all such affected road stock is to be reconstructed and rehabilitated to the required standards. Keeping in view, the early recovery (other than CERINA¹⁷), reconstruction and rehabilitation is estimated to be PKR 3,543 million in FATA (for 299 km of road sections) while it is PKR 11,924 million (for 1,206 km of road sections) in NWFP and tabulated below. Apart from above, two national highways N-95 and N-90 also sustained damages and cost of early recovery, reconstruction and rehabilitation is PKR 1,169 million for 123 km sections out of 198 km of road network.

¹⁶ Road condition data obtained from Works and Services Department NWFP for the year 2007-8. These figures are not available for FATA.

¹⁷ CERINA focuses on early recovery of tertiary road (access road) network by rehabilitating foot paths, culverts, drains, paved streets, suspension/wooden bridges and retaining walls. This intervention is one of the sub-components under "Rehabilitating Community Infrastructure" having an overall cost of \$ 11.3 million. Based on this premise, unpaved affected roads are not included in the DNA since interventions required on these roads (removal of debris, retaining structures etc.) are included in CERINA. Similarly, early recovery on affected principal, secondary and paved access roads have been included in DNA.

Table Annex-8.2: Transport-Early Recovery, Reconstruction and Rehabilitation of Roads in NWFP

District/Agency Type of Road	FHA Provincial Highways	W&S/LG&RDD		Total
		Secondary Roads	Access Roads	
Buner				
Total Length	51	134	577	762
Length (Recon/Rehab.)km	24	120	102	246
Cost PKR (million)	312	1,200	714	2,226
Dir Lower				
Total Length	6	220	1,684	1,910
Length (Recon/Rehab.)km	6	42	150	198
Cost PKR (million)	90	420	1,350	1,860
Shangla				
Total Length		55	377	432
Length (Recon/Rehab.)km		42	30	72
Cost PKR (million)		420	240	660
Swat				
Total Length	88	84	697	869
Length (Recon/Rehab.)km	72	72	396	540
Cost PKR (million)	1,008	980	3,960	5,948
Dir Upper				
Total Length		586	742	1,328
Length (Recon/Rehab.)km		30	120	150
Cost PKR (million)		270	960	1,230
Total				
Total Length	145	1,079	4,077	5,301
Length (Recon/Rehab.)km	102	306	798	1,206
Cost PKR (million)	1,410	3,290	7,224	11,924

Table Annex-8.3: Transport-Early Recovery, Reconstruction and Rehabilitation of Roads in FATA

District/Agency Type of Road	Communication and Works			Total
	Agency Highways	Secondary Roads	Access Roads	
Bajaur				
Total Length	46	164	542	752
Length (Recon/Rehab.)km	45	66	20	131
Cost PKR (million)	585	792	200	1,577
Mohmand				
Total Length	70	116	318	504
Length (Recon/Rehab.)km	58	74	36	168
Cost PKR (million)	754	888	324	1,966
Total				
Total Length	116	280	860	1,256
Length (Recon/Rehab.)km	103	140	50	299
Cost PKR (million)	1,339	1,680	524	3,543

6. The damage to bridges was severe in terms of complete destruction to partial damages. The following table presents the reconstruction and rehabilitation to bridges which amounts to PKR 658 million.

Table Annex-8.4: Transport-Summary of Damages Bridges

District/ Agency	Affected Bridges			Cost of Damages PKR (million)
	Completely Destroyed	Partially Damaged	Total	
Buner	2	1	3	73
Dir Lower	3		3	21
Dir Upper	5		5	87
Shangla	1	3	4	13
Swat	29	14	43	434
Total NWFP	40	18	58	628
Bajaur		1	1	12
Mohmand	1		1	18
Total FATA	1	1	2	30
Grand Total	41	19	60	658

7. As part of the early recovery, reconstruction and rehabilitation strategy, road sector services is desired especially removal of obstruction to connectivity. While reconstruction cycle takes time, it is proposed that district department of roads is provided with a pool of machinery and semi-relocatable steel truss bridges. The in-house arrangement will facilitate these departments to take on emergent nature work and develop in-house capacity to respond in case of relapse of crisis situation. Steel bridges with variety of spans (15m to 60m) are proposed for each district/agency while a set of machinery comprising excavator, loader, grader, dumper, dozer and machinery carrier are suggested. This amounts to a cost of PKR 2,192 million. This is the major portion of the cost not related with the damage but constitute part of the early recovery strategy.

Table Annex-8.5: Transport-Cost of Steel Bridges and Road Machinery

District/ Agency	No. Proposed				Cost of Steel Truss Semi- relocatable Bridges PKR	Cost of Road Work Machinery	Total Cost PKR (million)
	15m	30m	45m	60m			
Buner	2	2	1	1	136.5	101	237.5
Dir Lower	2	2	1	1	136.5	101	237.5
Dir Upper	2	2	1	1	136.5	101	237.5
Shangla	2	2	1	1	136.5	101	237.5
Swat	10	10	3	3	565.5	202	767.5
Total NWFP	18	18	7	7	1,111.5	606	1,717.5
Bajaur	2	2	1	1	136.5	101	237.5
Mohmand	2	2	1	1	136.5	101	237.5
Total FATA	4	4	2	2	273.0	202	475.0
Grand Total	22	22	9	9	1,384.5	808	2,192.5

8. The total cost for the road sector is summarized below:

Table Annex-8.6: Transport- Reconstruction and Rehabilitation Cost

District/ Agency	NWFP							FATA		
	Buner	Dir Lower	Shangla	Swat	Dir Upper	NHA	Total	Bajaur	Mohmand	Total
Cost of Early Recovery, Reconstruction and Rehabilitation	2,226	1,860	660	5,948	1,230	1,169	13,093	1,577	1,966	3,543
Bridges	73	21	13	361	87	73	628	12	18	30
Total	2,299	1,881	673	6,309	1,317	1,242	13,721	1,589	1,984	3,573
Steel Bridges	137	137	137	565	137		1,113	137	137	274
Machinery	101	101	101	263	101		667	101	101	202
Total	238	238	238	828	238		1,780	238	238	476
Grand Cost –PKR (million)							15,501.20	4,049.00		
Grand Cost US\$ (million)							193.77	50.61		

Aviation

9. The other mode of transport in the crisis area is aviation. Swat has one airport located at Saidu Sharif managed by Civil Aviation Authority. The crisis has resulted in damages to its various facilities. 11 residential units and a generator building were completely destroyed while the air terminal building and traffic control tower was slightly damaged. Moreover, various equipments, machinery and goods have been stolen, destroyed or damaged. The estimated cost of damages is PKR 68.45 million, while the reconstruction, replacement and rehabilitation cost is estimated to be PKR 101.1 million.

C- Early Recovery and Reconstruction Strategy

10. The recovery and reconstruction strategy not only looks beyond the requirements of restoring the infrastructure damaged in the crisis but also ensure better quality/design standards in replacing the destroyed/damaged. Better road network plays significant role in the post crisis situation, the reconstruction strategy is meant to i) immediately restore accessibility in the crisis afflicted area, ii) restore damage bridges and structures, iii) prioritized reconstruction and rehabilitation works using condition surveys and agreed serviceability indicators for the network. In the long term, increase in the road connectivity and improvement of facilities are envisaged to built further on the reconstructed infrastructure. The phased approach will be followed in reconstruction. In the first two phases, that is subject of this DNA report immediate and necessary restoration and rehabilitation requirement will be met. The approach is explained below.

Early recovery, immediate and short term period

- Clear road from mines, debris, obstructions, fallen material etc.
- Earth filling in deep patches and ditches
- Bitmac patching in high volume sections
- Provide detours at impassable segments, damaged bridges, causeways and culverts

- Provide safety signs at detours and collapsed structures
- Providing signs for guiding traffic at required places
- Removing blockade of main drainage structures
- Dismantling structures posing danger to vehicular and pedestrian traffic
- Launching of portable bridges as a temporary measure
- Strengthening government road sector agencies on carrying out early recovery works through mix of in-house resources and quick outsourcing
- Minimize interventions during early recovery period that are targeted to meet deferred maintenance backlog, without carrying out requisite studies
- Performing development deficit analysis for the sector
- Hiring of consultants for road infrastructure condition surveys, network and program level planning, selection of candidates road for reconstruction, rehabilitation, new construction, design and procurement. In the short medium term, emphasis will be on primary road corridors to improve mobility and roads that provide access to a large section of population
- Local unpaved roads will be covered under CERINA as most of them required clearance of hill slips and construction of road structures
- Setting up implementation arrangements for medium development intervention

Medium term

- Prioritized rehabilitation, reconstruction and new construction of selected roads facilities
- Performing long term development planning

Long Term

- Continuation of implementation arrangements
- Long term sustainable development
- Continuation of financing

ANNEX 9 – WATER SUPPLY AND SANITATION

ANNEX 9 – WATER AND SANITATION

A. Introduction

1. The damage incurred to the drinking water and sanitation facilities in five districts of Malakand i.e. Swat, Shangla, Buner, Upper Dir and Lower Dir; and two agencies of FATA region i.e. Bajaur and Mohmand has been assessed with the help of the agencies responsible for construction, operation and maintenance of the facilities in respective area. Two Government departments own the WATSAN facilities in Malakand and FATA i.e. Public Health Engineering Department (PHED), and Local Government and Rural Development Department (LGRDD). This DNA is based on data provided by these two agencies.

2. Various types of drinking water facilities exist in both Malakand and FATA including tube-wells with distribution networks, protected springs, hand pumps, open wells etc. In five affected districts of Malakand 1,508 water supply facilities exist, of which 928 are owned by PHED and 580 by LGRDD. All PHED schemes are tube-well based with distribution network and household and/or street connections. LGRDD schemes mostly include hand pumps, open wells and protected springs. In Bajaur and Mohmand all 358 reported scheme are owned by PHED. These are tube-well based facilities with distribution networks in most of the cases. Almost all water supply facilities are based on groundwater. The population coverage of these facilities ranges from approximately 40% in FATA to 60% in Malakand.

3. Sanitation facilities exist in some areas of Malakand, provided by LGRDD, including mainly street pavements and street drains, and sewerage network in some urban centers.

4. This assessment is based on the data provided by the PHED and LGRDD, partly verified by the assessment team through field visits and by using staff of other ADB financed projects in the area. The damage appears to be not substantial in monetary terms, but keeping in view the importance of these basic facilities and their impact on the overall health of the affectees and the environment, indirect damage may be significant.

B. Damage and Need Assessment

Malakand

5. In the five affected districts, about 30% (451 out of 1,508) water supply schemes have been completely or partially damaged, including 151 (out of 928) owned by PHED and 300 (out of 580) owned by LGRDD¹⁸. Out of the total 451 damaged schemes, 111 are completely damaged and 340 are partially damaged. All completely damaged schemes are owned by LGRDD and include mostly hand pumps, open wells and protected springs. Among partially damaged schemes, 151 are owned by PHED, all tube-well based, and 189 are owned by LGRDD. The maximum number of tube-well based schemes (201) exist in Swat district and damage is also maximum there (100), but none of those was fully damaged. Partial damages ranging from tube-well, pump house, storage reservoirs and distribution networks occurred from place to place. In Shangla 16 out of 136 PHED schemes are partially damaged; in Buner 24 out of 168 schemes are partially damaged; in Upper Dir 3 out of 213 and in Lower Dir 8 out of 210 schemes are partially damaged. Population served by the damaged schemes owned by PHED was 419,000.

¹⁸ LGRDD schemes include mostly hand pumps and open wells, and each one is counted as a scheme

6. The number of LGRDD owned schemes partially or fully damaged is more because those were mostly single component schemes and of small size. Out of total 580 schemes, 111 are completely damaged and 189 are partially damaged. In Swat 69 out of 170; in Shangla 49 out of 120; in Buner 58 out of 80; in Upper Dir 51 out of 95; and in Lower Dir 73 out of 115 have been damaged. Population served by damaged LGRDD schemes was 614,000. District wise base line and details of damaged schemes are provided in Table 1.

Table Annex-9.1: W&S-PHED Schemes

District	Total Schemes	Damaged Schemes	Completely Damaged	Partially Damaged	Population Served
Swat	201	100	-	100	300,000
Shangla	136	16	-	16	15,000
Buner	168	24	-	24	95,000
Upper Dir	213	3	-	3	6,000
Lower Dir	210	8	-	8	3,000
Total	928	151	-	151	419,000

Table Annex-9.2: W&S-LGRDD Schemes

District	Total Schemes	Damaged Schemes	Completely Damaged	Partially Damaged	Population Served
Swat	170	69	21	48	210,000
Shangla	120	49	21	28	47,000
Buner	80	58	23	35	230,000
Upper Dir	95	51	23	28	100,000
Lower Dir	115	73	23	50	27,000
Total	580	300	111	189	614,000

Table Annex-9.3: W&S-Total Schemes

District	Total Schemes	Damaged Schemes	Completely Damaged	Partially Damaged	Population Served
Swat	371	169	21	148	510,000
Shangla	256	65	21	44	62,000
Buner	248	82	23	59	325,000
Upper Dir	308	54	23	31	106,000
Lower Dir	325	81	23	58	30,000
Total	1508	451	111	340	1,033,000

7. The estimated cost of damage to water supply schemes in five districts of Malakand is PRs 62.12 million. This is worked out by depreciating estimated reconstruction cost, which is

based on estimates of the components of the damaged schemes by PHED and LGRDD staff, and by using CSR-2009 first quarter of NWFP. District wise estimate of the damage cost of water supply schemes is presented in Table 2.

Table Annex-9.4: W&S- Cost of Damage to Water Supply Schemes in Malakand

District	Completely Damaged Schemes	Estimated Cost (PRs.mil)	Partially Damaged Schemes	Estimated Cost (PRs.mil)	Total Estimated Cost(PRs.mil)
Swat	21	0.44	148	26.90	27.34
Shangla	21	0.45	44	5.00	5.45
Buner	23	2.03	59	7.13	9.16
Upper Dir	23	2.03	31	4.80	6.83
Lower Dir	23	2.03	58	11.32	13.35
Total	111	6.97	340	55.15	62.12

8. Partial damage to sanitation facilities including street pavements, street drains and sewerage network estimated about PRs 44.51 million is also reported in these districts by LGRDD. Details along with estimated cost are provided below.

Table Annex-9.5: W&S- Cost of Damage to Sanitation Facilities in Malakand

Facility	Unit	Damaged Quantity	Estimated Cost PKR (million)
Street Pavement	sft	1,053,536	21.92
Street Drains	rft	72,877	17.64
Sewerage Pipes	rft	51,000	4.94
Total			44.50

FATA

9. PHED has installed 358 schemes in the two agencies, all tube-well based, of which 46 are reported damaged, including 3 completely damaged and 43 partially damaged. Bajaur has 40 damaged schemes out of total 189, of which 3 are completely damaged and rest partially. Mohmand has only 6 partially damaged schemes out of total 169. Total population served by 46 damaged schemes is approximately 49,500. The cost of damage is estimated to be PRs 25.65 million. Details are provided in Table 4.

Table Annex-9.6: W&S- Cost of Damage to Water Supply Schemes in Mohmand and Bajaur

Agency	Total Schemes	Damaged Schemes	Completely Damaged	Estimated Cost PKR (million)	Partially Damaged	Estimated PKR (million)
Bajaur	189	40	3	3.89	37	18.72
Mohmand	169	6	-	0.00	6	3.04
Total	358	46	3	3.89	43	21.76

10. The total estimated damage cost of water supply schemes in five districts of Malakand and two agencies of FATA is PRs.87.77 million. Estimated cost of damaged sanitation facilities is PRs 44.51 million.

Table Annex-9.7: W&S- Summary Damage Cost (Rs. Million)

Division/ Area	Water Supply	Sanitation	Total
Malakand	62.12	44.51	106.63
FATA	25.65	-	25.65
Total	87.77	44.51	132.28

C. Early Recovery and Reconstruction Strategy

11. Realizing that water and sanitation is a basic necessity, appropriate and timely measures are of significant importance. It is proposed that an early recovery strategy be prepared in collaboration with WASH agencies, particularly UNICEF to have uniform plan of action and avoid duplication. Various reports and presentation collected during the course of this assignment revealed that many of the damaged facilities have already been either rehabilitated or made functional. An inventory of all damaged and rehabilitated/restored facilities must be prepared to ascertain the investment required to fix the remaining facilities in the short term.

12. A long term strategy could be prepared focusing on extending the coverage and enhancing the quality of service by using new technologies, along with building capacity of the sector institutions. Special emphasis should be on hygiene education and provision of more sanitation facilities. Moreover, provincial government should also focus towards creating an enabling environment for bilateral donors to fund water and sanitation projects through community partnerships with the involvement of private sector and NGOs. In the long term approach, the provincial governments should plan for increased coverage, in view of the expected population increase in the next 20 years, which is normal design life of a water supply scheme. PHED and LGRDD should consider introducing better technology options and improved infrastructure for service delivery. Water quality has been ignored both at planning and implementation level, it is suggested to incorporate means to ensure safe drinking water by providing reasonable water quality at all times of the year, this should be tied to persistent monitoring plans. Community ownership should also be institutionalized where they should become the owner of the asset and take charge of O&M.

13. The total estimated cost of reconstruction and rehabilitation of water supply schemes in five districts of Malakand is Rs.157.16 million, and in two agencies of FATA is Rs.64.9 million. Estimated cost of damaged sanitation facilities is PRs90.92 million. District wise cost estimates and summary is provided below.

Table Annex-9.8: W&S- Reconstruction/Rehabilitation Cost of Water Supply Schemes

District	Completely Damaged Schemes	Estimated Cost PKR (million)	Partially Damaged Schemes	Estimated Cost PKR (million)	Total Estimated Cost PKR (million)
Malakand					
Swat	21	1.12	148	68.04	69.16
Shangla	21	1.13	44	12.65	13.78
Buner	23	5.13	59	18.04	23.17
Upper Dir	23	5.13	31	12.15	17.28
Lower Dir	23	5.13	58	28.64	33.77
Total	111	17.64	340	139.52	157.16
FATA					
Bajaur	3	9.84	37	47.36	57.2
Mohmand	-	-	6	7.7	7.7
Total	3	9.84	43	55.06	64.9

Table Annex-9.9: W&S-Reconstruction/Rehabilitation Cost of Sanitation Facilities in Malakand

Facility	Unit	Damaged Quantity	Estimated Cost PKR (million)
Street Pavement	sft	1,053,536	45.3
Street Drains	rft	72,877	36.44
Sewerage Pipes	rft	51,000	9.18
Total			90.92

Table Annex-9.10: W&S-Summary Reconstruction/Rehabilitation Cost (Rs. million)

Division/Area	Water Supply	Sanitation	Total
Malakand	157.16	90.92	248.08
FATA	64.9	-	64.9
Total	222.06	90.92	312.98

ANNEX 10 – ENVIRONMENT

ANNEX 10 - ENVIRONMENTAL ASPECTS

Introduction

1. In addition to causing major losses to humans and settlements, the crisis has also resulted in adverse impacts on the environment. These environmental impacts can be classified as direct/immediate and indirect/secondary impacts.
2. During the present DNA, an attempt has been made to obtain early estimates of the nature and extent of the environmental impacts of the crisis. The detailed environmental and ecological assessments will however be needed to fully understand and quantify losses to forestry, aquatic and terrestrial ecosystems, including biodiversity, and to plan the ecosystem restoration activities.

Scope and Methodology

3. The crisis area for which the present environmental assessment has been carried out comprises i) Malakand Agency and districts of Swat, Shangla, Buner, Lower Dir, Upper Dir, and Chitral -- which are part of the Malakand Division of NWFP; and ii) Mohmand and Bajaur agencies, which are included in the Federally Administered Tribal Areas (FATA). The environmental damages are likely to be located in the crisis area itself, as well as the adjacent areas used for the transhumant routes and IDP camps. Therefore the present assessment focuses these places for the environmental damages.
4. In terms of sectoral coverage, the present assessment focuses forests and rangelands, wildlife, fisheries, and water quality. Other important environmental aspects, such as water supply and sanitation, have not been included here, since these are being covered by ADB.
5. To obtain data required to carry out DNA, two separate environmental focal points were designated for the NWFP districts and FATA. These focal points contacted various line departments to obtain baseline data as well as information on the environmental damages caused by the crisis. The information on the environmental damages was mostly based on anecdotal accounts provided by the departments' field staff.
6. Once received, the data was collated, and reviewed for consistency. Some of the line departments were contacted directly to seek confirmations and clarifications. This data was then used to assess the damages, and to estimate the cost of environmental restoration in the crisis areas.
7. In addition to the above, environmental/forestry experts from two NGOs were contacted for the validation of the data provided by the line departments. This data validation confirmed that the crisis had caused widespread damages to the environmental resources in the area, and also that there could be large variations between the damage quantum reported and the actual damage, primarily because the present estimates were based upon anecdotal accounts since most of the forests were still inaccessible due to the military presence.

Key Environmental Resources

8. **Forests and Rangelands.** The crisis area in NWFP and FATA is among the most forested regions of the country, consisting of both conifer and broad-leaf forests. The total area of the forests and rangelands in Malakand Division (comprising the Malakand Agency, and the districts of Swat, Shangla, Buner, Lower Dir, Upper Dir, and Chitral) is more than 5.7 million

acres. This is about 74 percent of the total land area in the Division. Forest lands alone comprise about 1.32 million acres, or 17 percent of the land area of Malakand Division, compared to the national average of 4.8 percent forest area. Hence, Malakand Division is one of the richly endowed forest areas of the country.

9. These forests and rangelands are the extremely important components of the ecosystem of the area, and provide timber and non-timber products, fuel wood, and livelihood opportunities to the local communities, in addition to the environmental or ecological services – including providing carbon sink, climate control, pollution reduction, soil binding, generation of soil nutrients, moisture retention, and recharging natural springs.

10. In addition to the natural forests, the Forest Department had also carried out block plantation and avenue plantation in some parts of the crisis area.

11. To support the forests, a large number of government and private owned forest nurseries also existed in the area.

12. In addition to the state forests, there also exist communal and private grasslands and forest plantations, which are managed by the communities through the Community Based Organizations (CBOs).

13. **Wildlife Resources.** The forests of the Malakand Division and the adjacent areas enjoy rich biodiversity, though illegal hunting and poaching and degrading habitat are some of the threats which existed even before the present crisis. There are several protected areas in the Division, including public game reserves and community game reserves.

14. **Fisheries.** The Swat River flowing through the Malakand Division is the best breeding ground for fish species including the famous trout fish and thus is the source of earning for many families in the valley. Many commercial hatcheries have been operating in the river basin near Behrain and Madian. Fisheries Department also had brood fish and stock fish at different places. Some fisheries existed in Mohmand Agency as well.

15. **Water Resources.** In the Malakand Division, the main sources of drinking water are Swat and Panjkora rivers and their several tributaries, springs and dug wells. In 2007, the water samples from various sources were analyzed to determine their fitness with respect to the microbiological, chemical and physical parameters. In the samples collected from Swat district, most of the water quality parameters such as pH, electrical conductivity, total dissolved solids, nitrates, and sodium, were found to be well within the WHO guidelines values. However E. Coli bacterial contamination was found in some of the samples, apparently caused by the indiscriminate disposal of untreated sewage in the water body.

Direct/Immediate Environmental Impacts and Damages

16. **Landslides and Landslips.** One of the main environmental impacts in hilly terrain of the crisis area has been land slides and land slips caused by activities such as shelling and bombing. Landslides and land slips affect the natural environment in different ways, including: (i) loss of top soil, and changes in the topography/morphology of the earth surface; (ii) blocking rivers and streams, and deteriorating their water quality; (iii) damaging forests and grasslands; and (iv) damaging habitats of native fauna and flora both on land and in the streams and rivers. Detailed studies are needed to determine the type and extent of restoration activities, and to estimate the associated costs.

17. **Damages to Forests, Rangelands and Forest Departments.** Given their vast extent, remoteness, fragility and the provision of necessary hiding opportunities for the militants, forests have been the greatest victim of insurgency as well as the military operations. The militants were mostly using forests for their hide outs, as training camps and as storage areas for their weapons and other activities. As a result, heavy artillery shelling has been carried out in the forest areas. This has led to severe damages to forests as well as rangelands in the crisis area.

18. Since most of the transhumant migration routes and all of the IDP camps were located well outside forested areas, the damages to the forest resources were mostly confined to the crisis area itself.

19. According to the preliminary information provided by the Forest Department, forests over an area of 82,300 acres, and rangelands over an area of 45,200 acres were totally damaged in the Malakand Division.¹⁹ In the Mohmand and Bajaur agencies, about 560 acres of the forest lands sustained partial damages.²⁰ .

20. The reported damages to the afforestation activities carried out by the Forest Department in the Malakand Division include about 19,100 acres of the afforested area, about 1.5 million plants in the tubed nurseries, 400,000 plants in the bare-rooted nurseries, about 8,000 farm-forestry plants, about 4,500 fruits/nuts plants, soil conservation works over an area of about 3,600 acres, range management activities in about 650 acres, and biodiversity conservation activities in about 150 acres. In addition, the Mohmand and Bajore agencies also suffered losses in block plantations in about 1,650 acres, and also lost about 30,000 trees in linear plantation (along the roads).

21. The Forest Department has also reported losses in the timber stocks in the Malakand Division. These losses include about 662,500 cubic feet of felled trees in round form and about 9,400 cubic feet of timber.

22. In addition to the biological resources, the crisis also caused damage to the physical infrastructure of the forest departments, both in the Malakand Division and FATA. These include damages to several office buildings, residential buildings and colonies, rest houses, office equipment and vehicles.

23. The reconstruction activities in the crisis area are also likely to cause increased timber demand. Unless there are proper controls in timber extraction, there can be a wave of denudation of forests of the area. In addition, lack of proper housing will lead to increased fuel wood demands for heating although traditionally, only branches are lopped for fuel wood. It is not possible to quantify these demands at this point due to a lack of demand data.

24. A large number of private forest nurseries, which existed in the crisis area, incurred heavy losses caused by the fighting, and also by lack of care. These nurseries used to cater the local demand, in addition to exporting the fruit and non fruit tree saplings.

25. **Damage to the Wildlife Resources.** No estimates are available for the damages to and/or loss of wildlife resources and the protected areas of the crisis area, which are mostly

¹⁹ The Forest Department defines ‘total damage’ as the extent of damage to be more than 40 percent.

²⁰ The Forest Department defines ‘partial damage’ as the extent of damage to be less than 40 percent and more than 10 percent. (Below 10 percent, the damage is defined as ‘negligible damage.’)

associated with the forests in these areas. Such damages/losses are extremely difficult to determine, and cannot be quantified without detailed studies.

26. The Wildlife Department of NWFP has reported partial damages to its physical infrastructure, including two office buildings, a wildlife enclosure, and a pheasantry. No such damages were reported from the Mohmand and Bajore agencies. Similarly, no damages to/loss of wildlife resources from the transhumant routes and IDP camp areas have been reported.

27. **Damages to Fisheries.** According to the information provided by the NWFP Fisheries Department, the crisis has caused damage to/loss of about 25,000 fish brood, 12,000 kilogram of fish feed, a palette machine and two grinding machines. Some damages have also been reported to the Department's physical infrastructure. The damages reported from FATA comprise destroyed fish ponds in Mohmand agency. The transhumance and IDP camping are unlikely to have affected the fisheries in any manner.

Indirect Environmental Impacts

28. In addition to the direct and immediate environmental impacts discussed above, the crisis is likely to cause some indirect and secondary impacts as well. These include: (i) water contamination caused by disposal of debris and other wastes in the water bodies; (ii) public health issues caused by consuming the contaminated water; (iii) loss of natural resource-based livelihood of the local population; (iv) landslides due to deforestation caused by the crisis; (v) loss of wildlife caused by deforestation; (vi) higher turbidity in water bodies caused by debris disposal, thus causing increased water temperature and hence decreased dissolved oxygen in water, in turn causing loss of aquatic life; (vii) rangeland degradation due to uncontrolled grazing; (viii) deforestation that could be caused by the reconstruction activities; (ix) enhanced stone quarrying for reconstruction activities; and (x) disruption of environmental/ecological services provided by the forest.

Restoration/Reconstruction Strategy and Next Steps

Overall Approach

29. In developing a strategy for reconstruction and recovery, environment should not be considered as a separate sector because it is intricately linked to livelihoods of the affected communities because of their dependence on natural resources. In order to ensure the sustainability of the reconstruction and recovery process, environment and natural resource issues have to be an integral part of all sectoral plans, particularly on the transport, urban development and water supply and sanitation sectors. As a general rule, 3-7% should be added to overall sectoral costs for integration of environmental mitigation and management measures. While the country had little control over the adverse environmental impacts resulting from the crisis, it will have complete control over the environmental and natural resource impacts of reconstruction.

Short Term Priority Actions

30. **Development of Environmental Impact Assessment and Management Framework.** An Environmental Impact Assessment and Management Framework (EIAMF) will need to be prepared and will be used as a guide to undertake environmental impact assessments for all rehabilitation and reconstruction activities to ensure adverse environmental impacts are minimized and appropriate mitigation measures are included in project design. *Estimated cost: \$ 20,000.*

31. **Environmental and Ecological Studies.** The most pressing environmental issues that need to be addressed are: (i) sanitation, public health and solid waste disposal issues arising from the affected communities, transhumant routes and IDP camps, to ensure that public health and the surrounding environment is not adversely affected; (ii) immediate identification of alternative building construction material, where feasible, and identification of suitable resource extraction sites for housing material; (iii) undertaking studies to characterize and quantify the ecological damage due to the crisis and recommend mitigation and/or remediation measures for reversal, wherever possible; (iv) developing the plan to control landslides and landslips; and (v) assessment of the indirect environmental impacts, to the extent possible, and development of restoration strategies, where applicable.. *Estimated Cost: \$ 200,000.*

32. **Institutional capacity building.** Capacity in environmental management institutions in NWFP will require strengthening to manage the environmental issues of the reconstruction program. For this purpose, two environmental specialists are envisaged for two years. *Estimated cost \$ 130,000.*

33. **External environmental monitoring.** To validate the environmental management and monitoring to be carried out by the environmental specialists mentioned above, consultants will be engaged to conduct the external monitoring. *Estimated cost \$ 50,000*

34. **Reconstruction of physical infrastructure of the forestry, fisheries and wildlife sectors.** The forestry, fisheries and wildlife sectors have identified the losses to public infrastructure. *Estimated cost \$ 500,000.*

Medium Term Actions

35. **Ecological restoration.** Forest and rangeland restoration activities, including plantation, will need to be initiated in the affected areas. The initial estimates provided by the forests departments of NWFP and FATA are tabulated below. These estimates need be refined on the basis of the findings of the ecological study described above.

Area	Description	Restoration Estimates	Notes
NWFP	Forest	\$ 57,000,000	Basis: \$ 625 per acre for forest re-plantation; \$ 125 per acre for rangeland restoration
	Fisheries	\$ 181,000	Replacement cost of fish brood and other supplies.
FATA	Forest	\$ 1,360,000	Basis: \$ 625 per acre for forest restoration (plantation); \$ 125 per acre for rangeland restoration
Total		\$ 58,541,000	

Summary of the Environmental Needs

36. A summary of the environmental needs and restoration costs discussed above is provided below.

Description	Estimated Cost (US\$)	
	Immediate/Short Term Activities	Medium Term Activities
Development of EIAMF	20,000	-
Reconstruction of physical infrastructure of the forestry, fisheries and wildlife sectors	500,000	-
Institutional capacity building (cost of two environmental specialists for two years; their office costs; their transport and travel costs; training costs; and others)	130,000	-
Environmental and ecological studies (Key tasks include identification of critical environmental and natural resource issues; identification of resource extraction sites; quantification/characterization forest, rangeland, and wildlife damages; development of forests, rangeland, wildlife and protected area restoration plans; development of landslide management plan; and assessment of the indirect environmental impacts, to the extent possible, and development of restoration strategies, where applicable.)	200,000	-
Disposal of debris, rubble and other wastes ²¹	-	-
Environmental monitoring (Cost of external monitoring; twice a year for two years)	50,000	-
Ecological restoration (initial estimates) (forests, rangelands and fisheries)	-	58,541,000
Landslide management (slope stabilization)	-	Not known
Restoration of private forest nurseries	-	Not known
Wildlife and protected areas restoration	-	Not known
Total	900,000	58,541,000
	Say US\$ 60 million	

²¹ The debris and rubble disposal has been covered in the Conflict Early Recovery and Initial Need Assessment (CERINA) estimates.

ANNEX 11 – GOVERNANCE

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Introduction

1. To restore and rehabilitate the North West Frontier of Pakistan (NWFP), Federally Administered Tribal Areas (FATA) and Provincially Administered Tribal Areas (PATA) civil administration and law enforcement agencies to the ‘pre-crisis’ state with some improvement to cater to the special circumstances, the Damage Needs Assessment (DNA) estimates a cost of PKR 7 787/US\$ 97.3 million. For infrastructure reconstruction and rehabilitation, the DNA has adopted a ‘build back better’ approach, whereby, the same infrastructure will be restored to a better specification.

2. To prevent a crisis relapse, activities such as capacity building, strengthening public grievance redress (PGR) mechanisms or the appointment of additional staff are also included in the DNA. The Post Conflict Needs Assessment (PCNA) will review the wider systemic issues pertaining to NWFP, FATA and PATA’s respective governance frameworks, examine the capacity and governance gaps, and propose reforms to strengthen governance in NWFP, FATA and PATA, which will entail greater policy input and wider stakeholder consultations.

3. The table below sets out the estimated costs for each activity. Major investments are anticipated in the security and civil administration sectors. In NWFP, the police Elite Force is being enhanced to 7 500 personnel over a 2 year period, and in FATA, the Levies Force is to be enhanced by 15 000 over a 7 year period and a Levies Cheegha Party formed for rapid response. The report recommends that the initial enhancements in the Levies Force be made in the affected Mohmand and Bajaur agencies. In NWFP, 9 new *tehsils* are to be notified, requiring investments in establishment and personnel to timely operationalize the respective *tehsil* administrations. To ensure entitlements reach the vulnerable, PGR and transparency systems are being strengthened to promote responsive service delivery. The judiciary is being expanded in NWFP, and the criminal justice system strengthened by inducting professional prosecutors in FATA to ensure quick and effective resolution of disputes.

Sectors	NWFP PKR (million)	FATA PKR (million)
Security identities and entitlements	36	14
Ensuring security	1,942	1,638
Strengthening justice and rule of law	1,297	146
Strengthening civil administration	2,386	15
Engaging democratic governance	18	18
Implementing reconstruction and rehabilitation	186	91
Sub-totals	5,865	1,922
Grand total [US\$ 1= PKR 80]	7,787 [US\$ 97.3 million]	

4. Whilst conducting this DNA it has been assumed that the GOP will reconcile the proposed recommendations with other related exercises such as the United Nation's Conflict Early Recovery Initial Needs Assessment (CERENA). Hence, this report does not make adjustments for methodologies, calculations and figures provided by other organizations or factor in their recommendations. Policy decisions proposed or already taken by the GOP, the GoNWFP or the FATA Secretariat, such as enhancing personnel, have simply been adopted and costed in the DNA without reviewing their need or adequacy. It is assumed that the governments' policy decisions may be reviewed under the PCNA and therefore calculations re-assessed. Focusing on the reconstruction and rehabilitation of civilian infrastructure, this report does not factor in any damage suffered by para-military organizations such as the Frontier Corp (administratively attached to the Ministry of Interior). The GOP may make a policy determination on whether to include the para-military organizations in the DNA and/or the PCNA. It is assumed that the DNA covers up to a 2 year period, with some activities being subsumed under the PCNA that will address the medium to long term needs depending on the pace of formulation and implementation of the PCNA. Policy decisions required for the effective and efficient implementation of this DNA have been discussed below in Section F.

An Outline of the Governance Framework

5. The Constitutional Framework: Pursuant to articles 246 of the Constitution of the Islamic Republic of Pakistan 1973 (the 'Constitution'), PATA²² and FATA²³ have distinct governance arrangements from the 'settled' areas of the NWFP. The Federal government exercises executive authority over FATA through the Ministry of States and Frontier Regions (SAFRON), whereas PATA is subject to the executive authority of the GoNWFP. Federal laws are only applicable in FATA if so directed by the President of Pakistan, who may also issue Regulations for 'peace and good government' in FATA. Similarly, provincial laws must be approved by the President and directed by the provincial Governor to be implemented in PATA.²⁴

6. The NWFP, including PATA, has 24 seats in the Senate elected by members of the Provincial Assembly, 43 seats in the National Assembly and 124 seats in the Provincial Assembly directly elected on a party basis. PATA has 1 general seat in the National Assembly and 2 general seats in the NWFP Provincial Assembly directly elected on a party basis and representation in Senate indirectly elected by members of the NWFP Provincial Assembly. Adult franchise was introduced in FATA in 1996, enabling residents of FATA to directly elect, on a non-party basis, 11 general members to the National Assembly and 8 general seats in the Senate. Not being a province, there is no Provincial Assembly for FATA, which is directly administered with by the Governor NWFP, representing the President in the tribal areas, supported by the FATA Secretariat, leaving FATA largely self-governing or autonomous. In the Tribal Areas, the State's presence is highly centralized with extensive powers granted to the Governor and the Political Agent, and minimal and uneven in terms of its functions, resulting in considerable governance and development challenges.

²² Under the Constitution, PATA includes districts of Chitral, Swat (which includes Kalam), the Tribal Area in Kohistan, Malakand Protected Area, the Tribal Area adjoining Mansehra and the former State of Amb. This report however is confined to the districts of Lower Dir and Upper Dir (formerly the State of Dir) and Swat, Buner and Shangla (formerly the State of Swat).

²³ Under the Constitutions, FATA includes the Frontier Regions adjoining the districts of Peshawar, Kohat, Bannu and Dera Ismail Khan, and the Agencies of Bajaur, Orakzai, Mohmand, Khyber, Kurram, North Waziristan and South Waziristan. This report however is confined to Bajaur Agency and Mohmand Agency.

²⁴ See, for example, The PATA (Application of Laws) Regulation 1974 (1 of 1974) and PATA (Application of Laws) (Second) Regulation 1974 (11 of 1974).

7. Unlike NWFP's settled areas, neither the Supreme Court of Pakistan (SCP) nor the provincial High Court have jurisdiction over FATA or PATA unless specifically provided by legislation. In FATA, the judicial function is exercised by the Political Agent and *jirgas*, and in PATA, by specially constituted Qazi Courts that have their own appellate hierarchy. Consequently, residents in the different areas enjoy varying degrees of Constitutional cover and judicial protection that inform the governance arrangements and practices in the area. The unequal treatment of citizens have culminated in demands for reforms in FATA.

8. North West Frontier of Pakistan: In the settled areas of NWFP, the Local Government Ordinance 2001 (LGO 2001) provides for elected councils at the Union Council, *tehsil* and district levels. Each council is headed by an indirectly elected nazim. The district is headed by a District Nazim, who is the head of the district government. A District Co-ordination Officer is the Principal Accounting Officer in-charge of the local administration constituted by the various devolved departments²⁵ that are responsible for service delivery, planning and development for the district. Under the Police Order 2002 (PO 2002), the police department is a non-devolved department headed by a District Police Officer in the district and the Provincial Police Officer at the provincial level. Likewise, the judiciary, prosecution and prisons are all non-devolved departments. Whilst the Federal Ombudsman provides relief against the 'mal-administration' of Federal departments located in NWFP, there is no provincial ombudsman in NWFP for provincial and local government departments. The table below sets out the administrative units, population and area in the affected districts.

Districts	Tehsils	Proposed Increase in Tehsils	Union Councils	Population (Census 1998)	Area (square kilometers)
Upper Dir	3	1	28	575,858	3,699
Lower Dir	4	2	37	717,649	1,583
Shangla	2	0	28	434,563	1,586
Swat	7	4	65	1,257,602	5,337
Buner	3	2	27	506,048	1,865
Total	19	9	185	3,491,720	14,070

9. Provincially Administered Tribal Areas: Until 1995, PATA was governed by the PATA Regulation 1975, which the SCP declared unconstitutional for vesting judicial authority in the Deputy Commissioner and empowering *jirgas* to decide civil and criminal disputes under the supervision of the revenue officers. The SCP restored judicial authority to the regular courts and allowed appeals to the HC and the SCP. The Nizam-i-Adl Regulation 2009 however, vests all judicial authority in qazis (Shari'at court judges) with their own appellate hierarchy.²⁶ The regular civil and criminal procedure laws are enforced in PATA. Both the LGO 2001 and PO 2002 have been extended to PATA but the Dir Levies, appointed and financed by SAFRON,

²⁵ The 12 devolved departments are Community Development, Agriculture, Health, Human Resources, Finance and Planning, Information Technology, Law, Education, Literacy, Magistracy, Taxes, and Public Works and Services.

²⁶ The Nizam-i-Adl Regulation 1999 maintained the existing district and sessions courts but required courts to consult with clerics, which has now been superseded by the Nizam-i-Adl Regulation 2009.

continue to operate under the relevant District Police Officer (and the Malakand Levies under the relevant District Co-ordination Officer). Being part of NWFP, the PATA districts receive their current and development budgets from the GoNWFP.

10. Federally Administered Tribal Areas: Whilst PATA is being gradually integrated with NWFP's administrative framework, FATA continues to be distinct. FATA is governed under the Frontier Crimes Regulation 1901 (FCR) administered by the Governor as the representative of the President. The Governor's Secretariat co-ordinates between the Federal and provincial governments, SAFRON, and the FATA Civil Secretariat, headed by an Additional Chief Secretary, which is responsible for planning and development, and law and order in FATA. The non-development expenditures/recurring costs such as salaries and offices expenditures for the FATA Civil Secretariat, its directorates and field staff including khassadars and levies forces are provided for by the GOP through SAFRON from the federal budget. The Frontier Corp receives its budget from the Ministry of Interior. For development expenditures, the GOP provides a block allocation from the Public Sector Development Plan to the FATA Civil Secretariat to allocate according to its development priorities. The GOP also provides separate funds for particular projects that may, for example, be donor-assisted. Parliamentarians receive funds for their respective constituencies from federal Programs such as the Khushhal Pakistan Program.

11. Each tribal Agency is headed by a Political Agent (PA), who is responsible for administration, law and order and co-coordinating and monitoring development undertaken by the different departments. The PA is assisted by an Additional PA responsible for development, assistant political agents, tehsildars (administrative head of a *tehsil*) and naib tehsildars, as well as the local khassadars (who are a local police formed from the local tribes financed by SAFRON), the levies and scouts appointed and also financed by SAFRON, and the Frontier Corp. In the protected areas, those directly governed by the State, all civil and criminal matters are decided under the regular criminal and civil laws by the PA, who is also responsible for enforcement of the decisions. Whereas, in the non-protected areas that are governed indirectly through tribes, civil and criminal matters are decided by a *jirga* according to *riwaj* (customary law). The tribal *jirga* is also responsible for its enforcement. Decisions may be challenged before a tribunal constituted by Secretaries Home and Law and then in the HC or the SCP through a constitutional petition. The table below sets out the administrative units, population and area in the affected agencies.

Agency	Sub-Division	Tehsils	Population (Census 1998)	Area (square kilometers)
Mohmand	2	7	334,453	2,296
Bajaur	2	7	595,227	1,290
Total	4	14	929,680	3,586

Approach and Methodology

12. In NWFP's settled areas and PATA, information was requested down to the Union Council level and in FATA the tehsil level. Due to the security situation, it was not possible to visit the departments in the affected areas to assess and verify the damage. Instead, templates were provided to the departments, the provincial government and the FATA Civil Secretariat to

provide the information requested, which was followed by consultations with concerned departments for up-dates and field verification wherever possible, using ADB and project staff.

Damage and Need Assessment and Strategy

13. To restore civil administration and law enforcement agencies to manage the crisis and its immediate impact, this section sets out the infrastructure damage-related needs and the immediate investments required to prevent a crisis relapse. A brief outline of the strategy for rehabilitation and reconstruction in the short to medium term (1 to 2 years) is followed by tables that identify the activity and estimated costs for implementing reconstruction and rehabilitation in NWFP including PATA and FATA respectively. Many of these activities will be integrated into medium to long term plans agreed during the PCNA.

Ensuring identity and security

14. *Securing identities and entitlements:* To enhance protection and secure the rights and entitlements of the affected people, Computerized National Identity Cards (CNIC) need to be provided to those who are without ID cards but are legally eligible, and replacements where identity cards have been lost. Particular focus will be on the FATA and PATA areas, and vulnerable including the injured, women and children. To facilitate the provision of CNICs, enabling processes and procedures will need to be devised by NADRA and their mobile units engaged to locally process applications. To enhance protection for children, the GOP and NADRA may consider a suitable identity document for children.

Sr. #	NWFP: Securing identities and entitlements	Policy Input	Estimated Cost PKR (million)
1.	NADRA mobile units for issuing CNICs in the affected areas		24
2.	Public awareness campaign formulated and implemented for obtaining CNICs from mobile units		10
3.	Technical assistance provided to NADRA for determining the utility and feasibility of a specific identity card for children	Policy decision required from NADRA	2
Sub-total			36

Sr. #	FATA: Securing identities and entitlements	Policy Input	Estimated Cost PKR (million)
1.	NADRA mobile units for issuing CNICs in the affected areas		10
2.	Public awareness campaign formulated and implemented for obtaining CNICs for mobile units		4
Sub-total			14

15. *Ensuring security:* Law and order and personal security are immediate concerns that need to be addressed as a priority. From the DNA it is clear that police infrastructure has been

damaged, which, in the short term may be addressed by placing pre-fabricated structures, until new safe office and residential buildings, including secure police *chowkis* and *nakahs*, are constructed. Equipment such as transport, weapons, bullet proof jackets and radios/communication are required for effective policing. A police Elite Force, and a similar Cheegha Party in FATA has been proposed for rapid response that will need new infrastructure, equipment and establishment-related support. The GoNWFP has approved 7 500 posts for the Elite Force to be recruited over a 2 year period, thus far, 2 500 have been appointed. Support may be provided to NWFP to enhance the pace of recruitment and establish a training centre for their training and capacity building.

16. In FATA, whilst the number of *khassadars* will remain the same, SAFRON has proposed to increase the levies by about 15 000 with 2 500 being enhanced each year, and improved service structure and remuneration provided including pensions and risk allowances. It is suggested that support may be provided to enhance the pace of recruitment, and that the initial batches of 2 500 levies may be immediately deployed in the crisis-hit areas of Bajaur and Mohmand. Technical assistance (TA) will support the drafting of the constituting legislation and service rules for the levies and *khassadars*, who may be gradually merged into a more professional and well equipped levies force. In NWFP, police stations are to be reconstructed and up-graded with secure office and residential buildings, *chowkis/nakahs*, lock-ups, equipment including transport, bullet-proof jackets and radio communications.

17. TA will be provided for curriculum design input and to impart training enabling the police including the Elite Force, *khassadars*, levies and Cheegha Party to more effectively tackle the security challenges. In the short-term, the army and the Frontier Corp may continue to deal with the crisis but mechanisms/protocols need to be notified to enhance co-ordination and to bring the crisis management effort under civilian direction.

Sr. #	NWFP: Ensuring security	Policy Input	Estimated Cost PKR (million)
1.	Pre-fabricated structures (temporary police station) structures provided for police stations, in all affected areas		120
2.	Establishment of new police stations		288
3.	Construction of police nakah/picquets and chowkis		120
4.	Establishment of Elite Force, including infrastructure and equipment, and operational costs ²⁷		1,050
5.	Provision of weapons for the regular police		200
6.	Provision of transport for the regular police		60
7.	Provision of suitable clothing i.e. bullet-proof jackets for the police		30
8.	Provision of communication equipment for the police		6
9.	Technical assistance for revising curriculum and training materials for (i) police including the Elite Force,(ii) prosecution and (iii) prison personnel		5
10.	Technical assistance for pilot training of existing and new (i) police including Elite Force, (ii) prosecution and (iii) prison personnel (i.e. training of trainers)		60
11.	Technical assistance to formulate mechanisms and protocols for civil-military co-operation led under civilian direction		3
Sub-total			1,942

Sr. #	FATA: Ensuring security	Policy Input	Estimated Cost PKR (million)
1.	Establishment of an expanded Levies Force ²⁸		800
2.	Restoration/construction of new and existing buildings and infrastructure for offices, lock-ups and residences for khassadars and levies		260
3.	Construction of khassadar and levies nakah/picquets and chowkis		225
4.	Provision of weapons for the khassadars and levies (including new Cheega Party)		200
5.	Provision of transport for the khassadars and levies (including new Cheega Party)		40
6.	Provision of suitable clothing i.e. bullet-proof jackets for the khassadars and levies (including new Cheega Party Cheega Party)		60
7.	Provision of communication equipment for the khassadars and levies (including new elite force)		14
8.	Technical assistance for drafting levies and khassadars forces constituting law and service rules		2
9.	Technical assistance for formulating training curriculum for (i)		4

²⁷ The Y1 is assumed to be for recruitment and the Elite Force (1 375 personnel) will be operational in Y2.

²⁸ The Y1 is assumed to be for recruitment and the Levies Force (3 000 personnel) will be operational in Y2.

Sr. #	FATA: Ensuring security	Policy Input	Estimated Cost PKR (million)
	khassadars and levies, (ii) prison personnel and (iii) Cheega Party		
10.	Technical assistance for training (i) khassadars and levies, (ii) prison and (iii) Cheega Party		30
11.	Technical assistance to formulate mechanisms and protocols for civil-military co-operation led under civilian direction		3
Sub-total			1,638

Strengthening justice and rule of law

18. *Strengthening the judiciary*: TA will be provided to SAFRON to, in consultation with the Peshawar HC and the Civil Secretariat FATA, identify challenges and make recommendations for strengthening ‘judicial’ and informal mediation/ADR systems for effective dispute resolution in the short term. Similarly, the Peshawar HC may be provided TA to formulate a judicial policy for the NWFP. Delay reduction guidelines, for example, may be reviewed to ensure that urgent cases are timely heard and adjudicated to provide immediate relief. Support will be provided to implement the short term judicial policy under DNA and medium to long term reforms will be taken up under PCNA. Accordingly, judges will be trained to address the emerging judicial needs in the affected areas.

19. Recent GOP judicial reforms in FATA have curbed the arbitrary arrest and detention, and the Collective Responsibility powers, and provided for the establishment of a FATA Tribunal with similar powers as the HCs. Until the HC’s jurisdiction is extended to FATA or the judicial function separated from the PA, the FATA Tribunal needs to be immediately operationalized with the provision of adequate staff, safe office and residential buildings and infrastructure. To strengthen the investigation and prosecution functions, levies may be provided with investigation training, and trained prosecutors appointed. The FCR may be amended to provide eligibility criteria for *jirga* members determining cases, a timeframe laid down for the determination and the informal ‘incentive payments’ provided to *jirga* members regularized through law. In the medium to long term, the PCNA will consider law reforms to ensure that FATA residents enjoy full Constitutional and judicial protection.

20. *Strengthen public grievance redress (PGR)*: In NWFP and PATA, district, tehsil municipal and union council administrative and civic complaint handling mechanisms provided under the LGO 2001 will be operationalized with the appointment of dedicated staff and notification of suitable rules for complaint handling to ensure responsive service delivery and provision of entitlements. Similar arrangements will be made in FATA for PGR. TA will be provided to the GoNWFP and FATA Civil Secretariat to formulate rules to operationalize PGR mechanisms and implement a public awareness campaign to inform citizens about PGR mechanisms including the Federal Ombudsman.

21. *Establish legal aid clinics*: To ensure that affected persons receive their entitlements, legal aid clinics may be established, at the minimum, in each *tehsil* in NWFP, PATA and FATA. The legal aid clinics will support affected persons with their complaints through the administrative and judicial processes to ensure that they receive their entitlements. Premises,

equipment and stationery will be provided and suitably qualified persons engaged for the law clinics. A public awareness campaign will be supported to inform citizens about the legal aid clinics and to enhance legal literacy.

Sr. #	NWFP: Strengthening justice and rule of law	Policy Input	Estimated Cost PKR (million)
1.	Technical assistance for Peshawar High Court (PHC) to identify challenges and solutions for the provincial and higher judiciary to confront the insurgency and issue a provincial judicial policy response		3
2.	Technical assistance for the PHC to support 'irregular' or informal dispute resolution systems to resolve disputes expeditiously		3
3.	Technical assistance for the PHC and the NWFP government to examine the feasibility of extending the regular justice system to PATA and effectively addressing local judicial needs	Policy decision required	3
4.	District and <i>tehsil</i> judicial complexes (including residences) constructed		962
5.	Technical assistance to the PHC for training and raising awareness on insurgency-related challenges for the judiciary		3
6.	Technical assistance for the PHC for formulating public grievance redress (PGR) rules and operationalizing systems		2
7.	Dedicated staff appointed for operationalizing complaint cells at the <i>tehsil</i> and district levels		110
8.	Infrastructure and equipment provided to operationalizing <i>tehsil</i> and district complaint cells		10
9.	Technical assistance provided to NWFP Government to formulate and implement a public awareness campaign on PGR mechanisms in particular complaint cells and the Federal Ombudsman		3
10.	Professional and support staff, infrastructure and equipment provided to establish legal aid clinics in each <i>tehsil</i>		195
11.	Technical assistance provided to NWFP Government to formulate and implement a public awareness campaign on legal aid clinics		3
Sub-total			1,297

Sr. #	FATA: Strengthening justice and rule of law	Policy Input	Estimated Cost PKR(million)
1.	Technical assistance for SAFRON to, in consultation with FATA Secretariat and PHC, to identify challenges and solutions for an effective 'judicial' policy response to insurgency		3
2.	Technical assistance for the FATA Secretariat for formulating public grievance redress (PGR) rules and operationalizing systems		2
3.	Dedicated staff appointed for operationalizing complaint cells at the Sub-division and Agency levels		25
4.	Infrastructure and equipment provided to operationalizing Sub-division and Agency complaint cells		3
5.	Technical assistance provided to the FATA Secretariat to formulate and implement a public awareness campaign on PGR mechanisms in particular complaint cells and the Federal Ombudsman		2
6.	Professional and support staff, infrastructure and equipment provided to establish legal aid clinics in each <i>tehsil</i>		82
7.	Technical assistance provided to FATA Secretariat to formulate and implement a public awareness campaign on legal aid clinics		2
8.	Technical assistance provided to the FATA Secretariat to train levy personnel in investigation		5
9.	Technical assistance provided to essential amendments to the FCR		2
10.	Dedicated and trained prosecutors provided		20
Sub-total			146

Strengthening civil administration

22. *Strengthening civil administration:* TA will be provided to augment departmental capacity to effectively engage in the reconstruction and rehabilitation process. Rules and protocols will be drafted to ensure effective co-ordination between the various organizations engaged in reconstruction and rehabilitation, including civil-military co-ordination under civilian direction. To enhance the quality of administration and to operationalize the proposed new tehsils, safe office and residential buildings, transport and equipment will be provided. This would also include incremental staff and logistic support in the short to medium term to undertake the additional load.

23. In FATA, the PA and his establishment is the effective local government in the Agency. Until the extension of the local government system to FATA in the medium to long term, the PA, APA and the tehsildars' capacity will need to be strengthened by provision of staff and resources to design and implement development projects for the area. In the short term, project management units may be established, adequately staffed and resourced with consultant support, to formulate and implement development projects. As above, this would also include incremental staff and logistic support in the short to medium term to undertake the additional workload.

24. *Securing and accessing public records:* To protect rights and properties, it is essential that records on revenue, property, death, births, pensions, banking, police, judiciary, prisons are restored and secured, and made timely available to citizens. Technical assistance and infrastructure support will be provided to local governments in NWFP, and PA and tehsildars' establishments in the respective Agencies to restore and secure public records.

25. To ensure citizens timely receive their entitlements, it is essential that they can access information, such as obtaining copies of public records and documents. In NWFP, the freedom of information law may be strictly enforced and a public campaign implemented to raise public awareness on accessing information. TA may be provided to inform government officials on their responsibilities for ensuring the timely provision of public information. SAFRON may consider extending the federal freedom of information law to FATA and/or the Civil Secretariat FATA may notify freedom of information 'instructions' or 'guidelines' to its departments supported by a public awareness campaign.

Sr. #	NWFP: Strengthening civil administration	Policy Input	Estimated Cost PKR(million)
1.	Infrastructure, equipment and transport provided to house and operationalize new <i>tehsil</i> administrations and other affected areas		1,500
2.	Government staff provided for operationalizing the new 13 <i>tehsils</i> and other offices in the affected areas ²⁹		780
3.	Technical assistance provided to the NWFP government for formulating training for civil servants on confronting the challenges arising from the insurgency and ensuring effective service delivery in the context		3
4.	Training provided to civil servants for confronting the challenges arising from the insurgency and ensuring effective service delivery in the context		6
5.	Technical assistance provided to formulate a public awareness campaign for accessing information		1
6.	Training provided to government officials on freedom of information law and obligations		3
7.	Freedom of information public campaign		3
Sub-total			2,386

²⁹ The Y1 is assumed to be for recruitment and the Levies Force (3 000 personnel) will be operational in Y2.

Sr. #	FATA: Strengthening civil administration	Policy Input	Estimated Cost PKR(million)
1.	Technical assistance provided to the FATA Secretariat for formulating training for civil servants on confronting the challenges arising from the insurgency and ensuring effective service delivery in the context		3
2.	Training provided to civil servants for confronting the challenges arising from the insurgency and ensuring effective service delivery in the context		6
3.	Technical assistance to draft 'freedom of information' instructions/guidelines		1
4.	Technical assistance provided to formulate a public awareness campaign for accessing information		1
5.	Training provided to government officials on freedom of information law and obligations		2
6.	Support for implementing freedom of information public campaign		2
Sub-total			15

Engaging democratic governance

26. *Engaging the political administration:* To enhance citizen participation in the political process, the GOP is proposing extending the Political Parties Order 2002 to allow political parties to function in FATA. Till then, as far as possible, the present political machinery may be engaged in consultations and oversight. In the absence of elected local governments, parliamentarians from NWFP, PATA and FATA may be engaged to advise the reconstruction and rehabilitation effort in their respective constituencies and inform the process through consultations to ensure greater political ownership for the reconstruction and rehabilitation effort.

27. *Engaging community resources:* To enhance citizens' ownership and accountability for service providers, local community resources and capacities may be engaged for planning and monitoring local development projects, and supporting PGR. Support may be provided to operationalize LGO 2001 and PO 2002 civic monitoring and PGR bodies. In the medium to long-term, similar bodies may be established in FATA as part of the PCNA review. Public awareness campaigns will be implemented in NWFP, PATA and FATA to mobilize and engage local communities, and resources provided to support organized civic/citizen initiatives.

Sr. #	NWFP: Engaging democratic governance	Policy Input	Estimated Cost PKR(million)
1.	Technical assistance provided to the NWFP government to engage councilors and parliamentarians whose constituencies have been affected for public consultations and input on rehabilitation and reconstruction		3
2.	Technical assistance provided to the NWFP government for building civil society capacity for monitoring service delivery and reconstruction and rehabilitation process		6
3.	Technical assistance provided to the NWFP government for formulating a public awareness campaign to mobilize and engage civil society actors		3
4.	Public awareness campaign launched to mobilize and engage the community in monitoring, PGR and transparency initiatives viz. reconstruction and rehabilitation		6
Sub-total			18

Sr. #	FATA: Engaging democratic governance	Policy Input	Estimated Cost PKR(million)
1.	Technical assistance provided to the FATA Secretariat to engage councilors and parliamentarians whose constituencies have been affected for public consultations and input on rehabilitation and reconstruction		3
2.	Technical assistance provided to the FATA Secretariat for building civil society capacity for monitoring service delivery and reconstruction and rehabilitation process		6
3.	Technical assistance provided to the FATA Secretariat for formulating a public awareness campaign to mobilize and engage civil society actors		3
4.	Public awareness campaign launched to mobilize and engage the community in monitoring, PGR and transparency initiatives viz. reconstruction and rehabilitation		6
Sub-total			18

28. *The Post Crisis Needs Assessment*: The PCNA exercise will analyze all the above issues in more detail and propose long term sustainable solutions to strengthen the governance system in the affected areas. This would include proposing policy and legislative reforms, the strategy for implementation, institutional arrangements and planning for the transformation phase, that will cover the medium term (2-4 years); and a consolidation phase that will cover the long term (5 to 10 year).

Implementing Reconstruction and Rehabilitation

29. To ensure effective and efficient implementation, it is essential that there is adequate capacity to provide the necessary policy, technical and operational leadership and support to the implementing departments/agencies. According to international experience, effective and

sustainable reconstruction and rehabilitation is best undertaken by departments legally mandated and competent rather than creating special executive arrangements. Parallel or overlapping jurisdictions and mandates must be rationalized to ensure that the Constitutionally and legally mandated departments/agencies are mobilized to perform their functions during challenging episodes.

30. At the federal level, a Strategic Oversight Council has been established, chaired by the Prime Minister, for providing policy guidance. To support implementation at the provincial level, the NWFP Government has established the Provincial Reconstruction and Rehabilitation Settlement Authority (PaRRSA) as a ‘one window’ facility mandated to provide administrative, development, service delivery and security support to governments, donors and partner organizations,. PaRRSA is headed by a Director General supported by 6 directors managing various technical and management functions. Provincial and Divisional Steering Committees will be established for providing fast-track approvals for development proposals. Support will be provided to timely establish the proposed project management units (PMU) at the divisional and district levels.

31. The GOP has notified a FATA Disaster Management Authority (FDMA), headed by Secretary Law and Order as its Director General, responsible for leading and coordinating the rehabilitation and reconstruction effort in FATA. Support may be provided to FATA Civil Secretariat to devise the administrative framework and fully operationalize FDMA with the necessary appointments, and to devise and operationalize Agency level project management arrangements.

Sr. #	NWFP: PaRRSA	Policy Input	Estimated Cost PKR(million)
1.	Technical assistance provided to PaRRSA to devise the administrative arrangements and operationalize FDMA and Agency project management arrangements		1
2.	Infrastructure and equipment provided to PaRRSA to operationalize 1 divisional and 5 district PMUs		110
3.	Technical assistance provided to PaRRSA to operationalize 1 divisional and 5 district PMUs for a 2 year period		75
Sub-total			18

Sr. #	FATA: FDMA	Policy Input	Estimated Cost PKR(million)
1.	Technical assistance provided to the FATA Secretariat and FDMA to devise Agency level implementation arrangements		1
2.	Technical assistance provided to FATA Secretariat and FDMA to operationalize FDMA and Agency project management arrangements for 2 year period		40
3.	Infrastructure and equipment provided to FDMA to operationalize 2 Agency PMUs		50
Sub-total			91

Settling Policy for Strengthening Governance

32. The table below identifies the key policy decisions required for enabling the effective implementation of the reconstruction and rehabilitation effort outlined in this DNA report.

Sr. #	Sector	NWFP: Key policy interventions	Policy Authority
1.	Ensuring security	Revise police training curriculum for dealing with insurgencies	NWFP Police
2.	Strengthening justice and rule of law	To strengthen PGR and transparency/freedom of and access to information systems in civil administration and the judiciary	GoNWFP Peshawar High Court
3.	Engaging democratic governance	To engage parliamentarians and civil society in the reconstruction and rehabilitation process	GOP
4.	Implementing Reconstruction and Rehabilitation	To provide a crisis management system in line with Constitutional and legal jurisdiction and mandate	GoNWFP

Sr. #	Sector	FATA: Key policy interventions	Policy Authority
1.	Ensuring security	As priority, provide the Levies Force in Bajaur and Mohmand Agencies (from the 15 000 enhancement) quota immediately	SAFRON
2.		To enhance Levies' remuneration and service provisions in line with regular NWFP police	SAFRON
3.		Enact laws for constituting the Levies and Khassadars	SAFRON
		Make provision for adequate training for Levies and Khassadars	SAFRON
4.	Strengthening civil administration	Expand civil administration at the Agency, Sub-division and <i>Tehsil</i> levels to enhance service delivery including the 'police' and judicial services	SAFRON and FATA Secretariat
5.	Strengthening justice and rule of law	To notify access to information provisions	SAFRON/ FATA Secretariat
6.		To strengthen PGR and transparency/freedom of and access to information systems in civil administration	FATA Secretariat
7.	Engaging democratic governance	To engage parliamentarians and civil society in the reconstruction and rehabilitation process	GOP
8.	Implementing Reconstruction and Rehabilitation	To provide a crisis management systems in line with Constitutional and legal jurisdiction and mandate	SAFRON