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Provision of Infrastructure in Post Conflict Situations

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Executive Summary

This paper has been commissioned by DFID's Head of Profession, Infrastructure, to reflect the significant amount of infrastructure related work taking place in countries that have experienced conflict, and the different approach to infrastructure provision that this requires.

The paper addresses the range of experience and knowledge resulting from this work in different countries with a view to providing 'a background resource for the professional development of DFID advisors and contractors working in similar situations.' It also aims to address needs in the DFID Competency Framework covering infrastructure. The paper covers water and sanitation, transport, shelter, communications and energy infrastructure sectors, as well as the reinstatement of public buildings. It includes pertinent examples from both conflict and post-conflict countries.

Many difficulties are faced by infrastructure providers in post-conflict situations. Some of these difficulties can be easily identified and mitigated by providers. However, other issues do not become apparent until later stages of development. Literature reviews and experiences by providers reveal the following to be the key issues affecting infrastructure provision:

- Immediate issues – such as lack of security provision and funding
- Underlying problems – such as lack of institutional capacity, corruption, conflict sensitivity and governance
- Problems of response – strategy and sector prioritisation, roles of key stakeholders, short and long-term solutions, procurement and long-term financing.

These factors are further expanded in the paper in order to increase understanding, highlight problem areas and provide possible solutions to some commonly encountered issues. Conclusions identified in the paper relating to post-conflict infrastructure development include:

- **Stakeholders** - It is vital to identify all relevant stakeholders, including community civil society structures, and to ensure they are included in the reconciliation and reconstruction processes. It may be necessary to actively seek stakeholders as counterweights to those parties who promote themselves.
 - **Early engagement** - Planning for post-conflict provision of the immediate needs in infrastructure sectors can be speeded up by early engagement and preparatory planning before the peace agreement is signed.
 - **Long-term commitment** - Evidence indicates that the optimum time for infrastructural investment to benefit growth is after peace has been consolidated for at least a couple of years. Recognising this, DFID has extended the length of its commitments, including ten-year Memoranda of Understanding (MoUs) in some cases.
 - **Support to governments and institutions** - Major reconstruction activities must be driven by credible local or national government bodies. Such bodies may have been in existence for only short periods; further work on ways of developing viable institutional frameworks and appropriate funding partnerships is needed.
 - **Governance** - Good governance forms part of the infrastructure response, including transparency and accountability in procurement. Within this there is urgent need to develop quick, acceptable and workable ways of procurement when under high and wide-ranging pressure; and also to restrain temptations to promise unworkable programmes.
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- **Corruption** - Local purchase and procurement are important to aid recovery and assure continuity of long-term maintenance activities but give opportunities for corruption. Regulation and legislation vacuums can increase instances of corruption, non-payment of taxes and expropriation of funds by multinational organisations. Large capital payments for projects by multilateral and bilateral donors should include clauses for transparency of fund allocation for infrastructure projects. Early engagement and capacity building of institutions can aid in mitigation for corrupt practices.
 - **Conflict Sensitivity and Programming** - Through consideration of effective programme (including sector) prioritisation, inclusion of disenfranchised groups, aid in institutional development and longer-term strategies for infrastructure development, providers and donors can ensure that they address issues of conflict sensitivity in post-conflict infrastructure development.
 - **Rapid restoration of essential services**, such as water, fuel and power supplies assists in the perception of a return to normality and hence contributes to the reconciliation process. Reconstruction of significant public buildings should be assessed in the light of the contributions they will make to the processes of reconciliation.
 - **NGOs** have flexibility and freedom of action to be innovative during recovery and stabilisation phases of a post-conflict emergency but usually lack resources to undertake major reconstruction. Initial links that NGOs create can assist the larger donors that follow them – though the risk that those NGOs will lose their neutral status presents additional hazards to workers on the ground. Specialist NGOs have roles to play in activities such as the development of civil society, building institutional frameworks and public health awareness.
 - **Coordination** - The record of coordination in post-conflict situations is not good. In the immediate aftermath of peace there may be such a high level of political engagement that there is competition for projects, coordination is ineffective and the response is not only wasteful but fuels greed and grievances. There are cases where strong leadership through the UN has worked well.
 - **Safety and Security** - Undertaking significant reconstruction of infrastructure before cessation of hostilities is almost invariably counterproductive. Standards of work cannot be maintained and the repaired installations become new targets. Infrastructure providers can often be placed in vulnerable scenarios and exposed to risks such as UXO, mines and even kidnapping. Mitigation measures for risks to health and safety and associated training should be considered in the initial planning and programming stages. Coordinated efforts between infrastructure providers and military forces can aid in reducing risks to staff.
 - **Strategic Analysis** - There are tools available for strategic analysis of conflict-related situations but these have not been employed systematically. Our paper indicates the need for such processes.

We should recognise that donor support in infrastructure sectors, within post-conflict contexts, has the capacity to do harm as well as good. Infrastructure investment by nature is capital intensive. It offers huge opportunities for employment, profit from contracts and benefit from services. In a divided society these things may become causes of contention or even violence. Therefore, it is important to base infrastructure responses on a thorough strategic understanding of the factors relating to conflict. We have suggested that these can be viewed as ‘Greed’ and ‘Grievance’. But whatever the typology, the important point is that we should not simply set out to rebuild what was destroyed without any order or method. Provision of infrastructure has to be a highly strategic activity.

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1 Introduction - the role of infrastructure in post-conflict situations

This paper has been commissioned by DFID's Head of Profession, Infrastructure, to reflect the significant amount of DFID's infrastructure related work taking place in countries that have experienced conflict, and the different approach to infrastructure provision that this requires. The paper addresses the range of experience and knowledge resulting from this work in different countries with a view to providing 'a background resource for the professional development of DFID advisors and contractors working in similar situations.' It also aims to build on the DFID Competency Framework covering infrastructure. The paper covers water and sanitation, transport, shelter, communications and energy infrastructure sectors, as well as the reinstatement of public buildings. It includes pertinent examples from both conflict and post-conflict countries.

Post-conflict infrastructure falls within the wider focus that DFID has on fragile states. DFID's definition of a fragile state *'covers those where the government cannot or will not deliver core functions to the majority of its people including the poor. The most important functions of the state for poverty reduction are territorial control, safety and security, capacity to manage public resources, delivery of its basic services, and the ability to protect and support the ways in which the poorest people sustain themselves'*¹. Fragile states are a broader group of countries than those which are post-conflict. This paper has concentrated on post-conflict countries although, recognising recent policy work on fragile states, we have attempted to reflect the wider context where we can.

In terms of post-conflict situations, this paper considers 'post-conflict' countries as those where there has been a recent end to hostilities, recognising that this may be fragile. Conflict may be external war with a neighbouring nation or internal conflict including conflict affecting only certain parts of countries such as Sri Lanka and Uganda. It is noted that progression from conflict to post-conflict is not a linear process and there is a need for interventions to be sensitive to the causes of conflict.

Also the paper will emphasise the move towards 'working on conflict', as outlined in DFID's Strategy Paper on Security and Development, whereby *'conflict is actively and explicitly considered in order to develop activities that can help reduce or manage conflict, and promote short, medium and long-term peace-building processes'*². Infrastructure development has a role to play here.

In Section 2 of the paper, the key issues faced by infrastructure providers are highlighted. These include the lack of security, funding and governance. Within this section, further discussion of the key issues and their solutions is raised with respect to existing studies and literature.

Section 3 discusses infrastructure development as a whole and expands on key areas through identifying stakeholders, constraints and capacities.

Section 4 addresses the more specific challenges to infrastructure planners, with specific comments on the various infrastructure sectors.

Section 5 concludes the paper with consideration of the wider implications of infrastructure development and a summary of the main topics and associated conclusions.

¹ DFID (2005) *Why we need to work more effectively in fragile states*, DFID London

² DFID (2005) *Fighting poverty to build a safer world: a strategy for security and development* DFID London March 2005

2 Key areas and issues affecting infrastructure development

2.1 Identification of the key issues affecting infrastructure development

Many difficulties are faced by infrastructure providers in post-conflict situations. Some of these difficulties can be easily identified and mitigated by providers. However, other issues do not become apparent until later stages of development. Literature reviews and experiences by providers reveal the following to be the key issues affecting infrastructure provision:

Immediate issues

- Lack of security provision
- Hazards such as land-mines and diseases
- Funding

Underlying problems

- Identification of the causes of conflict
- Lack of institutional capacity
- Corruption
- Lack of political will
- Governance

Problems of response

- Strategy/sector prioritisation
- Types of key stakeholders
- Access to populations
- Existing infrastructure
- Involvement of civil society and NGOs
- Participatory methodologies
- Long and short-term solutions needed – how to meet immediate needs but achieve long-term sustainability
- Lack of local qualified technical staff
- Procurement activities, particularly those requested by donors

These factors are further expanded in the following sections in order to increase understanding, highlight problem areas and provide possible solutions to some commonly encountered issues.

2.2 Setting the scene

In this section we summarise key points in the published material reviewed whilst preparing the paper.

DFID Papers

‘Why we need to work more effectively in fragile states’, 2005

DFID’s recent publication ‘Why we need to work more effectively in fragile states’³ considers fragile states to be where government cannot or will not provide core services including security and service provision to the majority of it’s people including the poor.

³ DFID (2005) *Why we need to work more effectively in fragile states*, DFID London

State weakness can result from lack of capacity and willingness, but it should be recognised that some states are weak but willing whereas others are strong but repressive. The paper includes several relevant observations on the deficiency of related aid responses:

- The observation that aid to post-conflict states tends to tail off after about three years which is precisely when (according to a World Bank study⁴) it is most effective.
- External processes, such as humanitarian aid, can have negative effects on state structures.
- Fragile states may not be able to meet the most stringent demands; excessive demands may exacerbate the situation. In particular, reforms must not be pushed forward too rapidly.
- Effective states need inclusive institutions. They should ‘provide broad-based services to the population without institutionalised discrimination directed at particular groups’.
- The starting point for infrastructure in fragile states should be to ‘deliver what works’.

‘Fighting Poverty to build a Safer World: a Strategy for Security and Development’, 2005

DFID’s strategy paper on Security and Development focuses on the proliferating effect conflict has on poverty through the lack of guaranteed security, slowing development. *‘Without security, progress towards the Millennium Development Goals cannot be achieved’*. In this manner it is argued that development and security communities need to take greater account of each other’s objectives, as *‘where development fails, the likelihood of conflict increases’*. The paper also sets out DFID’s view of causal linkages between development and security at different levels, and considers the contribution of development assistance to promoting sustainable human and global security.

Conflict generates social division and criminality, reverses economic progress, impedes sustainable development and results in human rights violations. It also increases population movements and poses a threat to international stability. Conversely, non-conflict countries are more likely to attract foreign investment, trade and promote pro-poor strategies.

Therefore, a way of approaching sustainable development within poor nations is to also address the issue of conflict as a trigger and sustainer of poverty. Within this context, DFID’s approach has become one of ‘working on conflict’, whereby *‘conflict is actively and explicitly considered in order to develop activities that can help reduce or manage conflict, and promote, short, medium and long term peace-building processes’*.

The implication here is that infrastructure development should implicitly include considerations relating to conflict as part of the service provided, not only to support successful and more sustainable development, but also to prevent development which exacerbates factors that may cause conflict. World Bank research clearly indicates this remains an important principle even in situations regarded as ‘post-conflict’ - *‘Given that a typical country emerging from civil war faces a nearly 50% chance of returning to civil war’⁵, post conflict peace building is in effect conflict prevention.’*

‘Service Delivery in Countries Emerging from Conflict’, unpublished 2005

The Report for DFID ‘Service Delivery in Countries Emerging from Conflict’ (January 2005)⁶ emphasises this issue and makes various further relevant points. At the strategy level these include:

- The need for a strategic approach that prioritises ‘the avoidance of future conflict’ above promoting an unjust and unsustainable peace;

⁴ World Bank (2003) *Building Capacity in post-conflict countries* Social Development Notes No 14, World Bank.

⁵ World Bank (2003) *Breaking the conflict trap: Civil war and development policy*, Policy and Research Report, Oxford University Press

⁶ Vaux, T. and Visman, E. (2005) *Service Delivery in Countries Emerging from Conflict*, DFID London (unpublished)

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- The opportunity for reconstruction to be used deliberately as a ‘bridge for peace’;
 - The risk that unequal distribution of resources could increase social inequalities and tensions;
 - The need to integrate approaches through different sectors in order to achieve impact.

At a more tactical level the report indicates:

- The need for early engagement, even in advance of peace, in order to seize opportunities during the fluid and optimistic, but probably short-lived, period likely to follow after a peace agreement;
- The need to support government staff and capacity building in the aftermath of conflict, possibly through budgetary support;
- The need to ensure that capital inputs, such as buildings, can be sustained by adequate staff and recurrent costs provision.

In terms of different options for the response the report suggests:

- Affirmative action to enable women to participate in decision-making in order to give greater weight to their interest in peace;
- Encouraging local monitoring by user groups as well as more formal systems;
- Transparency about all inputs;
- Regulation to ensure that the private sector acts in a socially responsible manner.

‘Education, Conflict and International Development’, 2003

The DFID issued paper ‘Education, Conflict and International Development’⁷ includes a section on reconstruction and recovery and concludes that *‘post-conflict reconstruction should not necessarily mean replacing what has been destroyed through conflict’*. Instead it should be used as an opportunity to develop ‘conflict-sensitive systems’ as a means of reconciliation and transformation. The paper also draws attention to the danger that if the infrastructure for education is not equitably distributed there may be further grievances and even conflict, referring to a study in Burundi where educational resources have been allocated along tribal lines⁸.

A central point in the DFID papers described above, based on a wider review of the literature, is that the causes of conflict are often complex and are likely to persist into the post-conflict reconstruction phase. Donors and providers should avoid the assumption that everything has been resolved but rather work on the principles that:

- Conflict may resume
- The conflict will have weakened capacity and created structural tensions at all levels
- Reconstruction should play a role in peace-building
- Development should not exacerbate conflict.

This means that methodologies for conflict analysis should continue to be used even into the reconstruction phase in order to identify what strategies will be most effective in relation to peace-building and what issues are most sensitive. Based on DFID’s **Guide to Strategic Conflict Assessment**⁹, the situation in different countries can be mapped out using a matrix format. The following example, for Mozambique, is from the DFID paper on Service Delivery (Vaux & Visman, 2005 pp27).

The DFID Guide emphasises that ideally each conflict should be examined individually. In practice aid managers may need to base many of their decisions on more general analysis and lesson-learning,

⁷ Smith, A. and Vaux, T. (2003) *Education, Conflict and International Development*, DFID London

⁸ Jackson, T. (2001) *Access to Education in Burundi*, International Alert London

⁹ DFID (2002) *Conducting Conflict Assessments –guidance notes*, DFID London

but they should still base their policy in relation to conflict responses at all stages on a mixture of general principles and localised analysis. By implication, the general guidance offered in this paper must always be tempered by specific in-depth study of the local situation.

Causes and Factors Relating to Conflict in Mozambique

	Security	Political	Economic	Social
International	<i>South African arms to rebels</i>	<i>Pressure on Mozambique's leftist policies</i>	<i>Aid focused on Maputo</i>	<i>International NGOs pursue own strategies</i>
National	<i>Indiscipline of armed forces</i>	<i>Bureaucratic inertia - power centred in Maputo</i>	<i>Neglect of peripheral areas</i>	<i>No legal control on discrimination</i>
Local	<i>Violence causing breakdown of trade</i>	<i>Limited representation of poor people (on both sides)</i>	<i>Lack of development outside Maputo</i>	<i>Tension with traditional leaders</i>

Source: DFID, 2005

Other papers

'Rehabilitation: toward sustainable peace and reconciliation for redevelopment', Green, 2001

Summarizing the general findings of an extensive research programme on post-conflict rehabilitation, Green¹⁰ draws attention to the following points:

- Rehabilitation... is crucial to rebuilding government legitimacy and cannot be seen as simply restoring the pre-war situation
- There is a need for national ownership of rehabilitation with government strategic planning, leadership and coordination of external as well as domestic actors. Ideally this should be decentralised with substantial participation and accountability
- Simple, rapid, participatory dialogue can identify user priorities in the early stages.

Box 2.1 East Timor

Government capacity after the peace agreement was even weaker than pre-conflict. Some of these problems were overcome by skilful and coordinated actions by the aid community. A World Bank study of the reconstruction programme (Rohland & Cliffe, 2002) concludes that-

- Issues of speed were addressed by government and donors working together and establishing benchmarks for progress in all sectors. These were monitored and reviewed every 6 months.
- A key lesson relates to the trade-off between speed of delivery and capacity building. In East Timor the sectors which made more progress in establishing institutions were often less strong initially in achieving physical reconstruction targets.
- Early attention to building procurement and payment systems can help accelerate reconstruction.
- Non-government implementation arrangements may be combined with explicit transitional sectoral strategies to strengthen national ownership and control of policy decisions and gradually transfer implementation into government hands.

The World Bank's Conflict Prevention and Reconstruction Unit has focused on the general lessons that can be drawn about the timing of such inputs, concluding - *'The evidence suggests that aid during the post-conflict period is more effective than normal in raising growth. The effect is not uniform. During the first two or three years of the post-conflict decade aid is no more effective than in normal*

¹⁰ Green, R. H. (2001) *Rehabilitation: toward sustainable peace and reconciliation for redevelopment*, COPE Working Paper 39, IDS Sussex and Centre for Development Studies, University of Leeds (DFID funded)

*situations, and by the end of the decade it is also no more effective than normal. The high-impact phase is during the middle four or five years of the decade, when it is much more effective than normal.*¹¹

‘The Private Sector’s role in the provision of infrastructure in post-conflict countries’, Schwartz et al, 2004

Another key issue in the literature is the role of non-state actors, notably the private sector. The post-conflict period is characterised by low capacity in government and there may be opportunities for external investment. This seems likely to open the door to private investment, but a recent report by Schwartz et al¹² concludes that lack of absorptive capacity in government constrains this important process, and that it can be speeded up by creating a more encouraging policy environment - *‘The investment patterns show that telecoms investments, particularly mobile telephony, materialise immediately after (sometimes even before) the end of conflict. Electricity generation and distribution projects start to emerge about three years after the conflict and increase in frequency after year five. Private investment in transport and water tend to come much later.’* (Schwartz et al, 2004)

The report advises that the timing of reforms is important. Stepped arrangements may be considered, including a planned progression from modest forms of private participation in infrastructure (e.g. service or management contracts) to deeper forms such as leases or long-term concessions. Governments can also encourage (and especially refrain from constraining or regulating out of existence) the development of small-scale private service providers. A number of case studies and user surveys suggest that these entrepreneurs often play a key role in the absence of fully functioning states, established public utilities and major private investments.

‘Harnessing existing financial facilities to promote public private partnership for infrastructure investment and service delivery in post-conflict countries’, CEPA, 2004

Following this, the CEPA paper on public private partnerships (PPPs)¹³ discusses how best to improve the flow of finance from existing financial facilities to PPPs for infrastructure investment and service delivery in post-conflict countries (PCCs), whereby the private sector assumes a certain degree of risk.

As with the 2004 Schwartz et al paper, CEPA highlights the fact that telecommunications development dominates the immediate post-conflict scenario and also the share in PPP projects.

Due to the perceived risks to investment in PCCs (e.g. lack of regulation, accountability, instability of market, economy and currency etc.) PPPs are reluctant to invest. However, the paper identifies several intervention types such as the creation of flexible policy, legal and regulatory environments, as methods which could be adopted by donors to encourage PPP development in post-conflict countries.

It is also recognised that it is large international and multinational organisations which face greater risks, and that in development, PPPs should also recognise the role to be played by small to medium sized local infrastructure providers, who have a high tolerance for risk, low transaction costs, a good understanding of local market conditions and can handle receiving payments in local currency.

¹¹ Collier, P., Elliott, V., Hegre, H., Hoeffler, A., Reynal-Querol, M. and Sambanis, N. (2003) *Breaking the Conflict Trap – civil war and development policy*, World Bank and OUP

¹² Schwartz, J., Hahn, S., and Bannon, I (2004) *The Private Sector’s Role in the provision of infrastructure in post-conflict countries* Public Private Infrastructure Advisory Facility (PPIAF)

¹³ Cambridge Economic Policy Associates, in association with CA Legal (2004) *Harnessing existing financial facilities to promote public private partnership for infrastructure investment and service delivery in post-conflict countries*, December 2004, Draft report, Commonwealth Secretariat

Other Papers

Addison expresses concern that lack of regulation in post-conflict countries has allowed the rich to benefit disproportionately and lack progress in poverty reduction, even if there has been no return to conflict¹⁴.

Lack of capital for investment among those who lived through the conflict may give external investors the advantage, but depending who these groups are, there may be resentments and tensions. Hanlon cites the case of Mozambique where investment by South Africans and other expatriates is said to have marginalised local people in the process of development¹⁵.

Other major non-state actors include NGOs. Over the last decade, the international community has channelled increased funding to NGOs rather than the UN for humanitarian response¹⁶. But a paper published by Peace and Conflict Studies¹⁷ draws attention to possible negative roles of NGOs in conflict and post-conflict situations. By helping more on one side than the other they may be seen to depart from traditional roles of impartiality and neutrality. They may be seen to provide relief and reconstruction at the expense of justice and above all they may be seen to undermine political accountability by substituting for the state.

The literature confirms that 'post-conflict' environments may usually be characterised as fragile due to a lack of security, have the potential for a return to further conflict, and are characterised by weak or unwilling governments. This paper presents some of the practical examples experienced in provision of infrastructure in post-conflict situations. It highlights issues of coordination, funding, partnerships and the use of development as a tool for peace building.

Box 2.2 Mozambique – a model of post-conflict reconstruction

Mozambique is often regarded as a model of post-conflict reconstruction. A fundamental factor was that the rebels (Renamo) were incorporated into government and their interests and perspectives were acknowledged. Major grievances of Renamo supporters included poor roads and transport facilities, leaving some areas completely isolated and separating producers from markets. The unified government gave high priority to road construction. However, a principal donor, the EC, did not appear to recognise the need for strategies to maximize the impact on peace. An evaluation indicated that progress had been slow, especially for roads in more remote regions. Projects and aid managers did not anticipate the lack of capacity and other institutional constraints that were characteristic of the post-conflict period.

The lack of availability of local Mozambican engineers meant a large programme of foreign technical assistance- '2-3 Government engineers had to manage up to 50 TA from different consultancy companies, causing a number of problems. Progress...was...affected by the lack of progress in public administration reform and the difficulty in retaining staff. The difficulty of building local capacity was underestimated.' (Montes and Wolfe, 2000 pp34)

The sensitivity of the issues was emphasised in reconstruction of water and sanitation projects, which had been targets for Renamo attacks on the basis that they were 'Frelimo projects' and represented the kind of modernization that Renamo opposed. After the peace agreement, the unified government had to be careful to respect such concerns. Hanlon expressed concern that 'a form of centrally determined rapid modernisation will leave behind rural people and provoke a backlash.' (Hanlon, 2000)

¹⁴ Addison, T (2003) *Africa's Recovery from Conflict: Making Peace Work for the Poor*, UNU/WIDER

¹⁵ Hanlon, J (1996) *Peace without profit –how the IMF blocks rebuilding in Mozambique*, James Curry, Oxford

¹⁶ Macrae, J. Ed. (2002) *The new humanitarianisms: a review of trends in global humanitarian action*, HPG Report 11, ODI London

¹⁷ Gross Stein, J. (2001) *In the Eye of the Storm: Humanitarian NGOs, complex emergencies and conflict resolution*, Peace and Conflict Studies Vol 8, No. 1, May 2001

3 Infrastructure in the post conflict environment

3.1 Strategy and sector prioritisation

3.1.1 Identifying causes of conflict

As highlighted by much of the relevant literature on post-conflict development, it is crucial that the development work and its providers do not exacerbate tensions and increase the likelihood of a return to conflict through their actions. It is important that key infrastructure providers in post-conflict scenarios are aware of the causes for the original conflict and current tensions, derived from background research and lesson-learning by organizations such as both international and national NGOs and the UN. Therefore, infrastructure providers should work on the assumption that hostilities have not ended, despite peace treaties, and gear their responses towards conflict sensitive situations. This early stage understanding of the operational environment will ensure that appropriate planning strategies for infrastructure development can be devised which seek to mitigate potential problems, such as disenfranchisement of population sectors, which could spark a return to hostilities and create further insecurities.

3.1.2 Identifying key infrastructure losses

Problems?

The lack of knowledge of infrastructure provision, networks, condition and losses or damage, through the loss of trained technical staff (emigration, injury or death through conflict) and service and network plans creates major issues in identifying key infrastructure losses.

If local technical staff are found, issues of impartiality may arise. Not all infrastructure lost as a result of conflict is suitable for restoration or is critical to the immediate needs of the population. Challenges lie in the identification of projects which will meet immediate needs, are sustainable and can be used to 'build bridges for peace'.

Solutions?

It must be recognised that solutions for post-conflict situations are not generic but heterogenic. However, the response will involve identifying correct administrative and technical skills, and restoring the most needed services. Both are essential for the functioning of a range of community needs. Identifying engineers and administrators with personal pre-conflict infrastructure knowledge can be a major challenge (Box 3.1).

If key technical staff are found, coordination and interdependence between different groups should be encouraged to reduce conflict. Where technical staff are missing, training programmes should be implemented to ensure long-term sustainability of projects after the removal of international experts.

Box 3.1: Water engineers, Mostar, Bosnia 1994

Mostar city had been divided by fighting during the Bosnian war, with parallel administrative systems being established on both sides of the confrontation line. Humanitarian workers seeking to restore water services throughout the city were faced with two water supply administrators, each claiming to represent the former water company. One (who had, indeed, previously worked for the city) had apparently been appointed on the strength of his recent military activities while the other was a very able and noted academic. However, neither had direct experience of water supply and distribution, which delayed the planning of reconstruction since all workers with intimate knowledge of the distribution network had either died in the war or had emigrated.

Source: Hodgson, 2004

Quick Impact Projects are one approach to meeting immediate needs. Fuel for essential support vehicles will be required, but needs to be managed carefully. Power is necessary for medical needs and for security. Water supply infrastructure is vulnerable during conflicts, and represents an important fundamental need for the affected populations, followed by waste disposal and sanitation. In cold regions, communal heating systems may be vital for survival of the vulnerable. Key public buildings, including schools and hospitals should be re-established to enable a return to 'normality' and to act as visual reassurance of progress in development. Sequencing is important, for example, restoring power supplies will be fundamental in enabling restoration of other infrastructure.

3.1.3 Strategic needs assessment and planning processes

A systematic approach to strategic needs assessment will review factors critical to the success and security of any designated development project, such as the prioritisation of infrastructure development by sector (see Section 4.2). This may include reviews of: administrative infrastructure and existing services; communications; regional power needs and supplies; water and sanitation systems; and shelter (including heating). The hazard represented by mines and unexploded ordnance must be assessed, for example via the lead agency on mine action, before any physical inspection of remote infrastructure occurs.

Box 3.2: Hazards

- Mine hazards are mostly experienced on roads, bridges or railway lines
- Unexploded ordnance may cause major hazards in buildings and urban locations.
- Security risks to foreign staff from kidnapping
- Health hazards to staff from diseases and epidemics

Specialist mine and ordnance clearance teams may be in high demand following a period of conflict and will prioritise their work according to most immediate needs. Mine clearance activities may be prioritised by military forces for civilian shelters or public buildings, over clearance of ordnance from water treatment works or pumping stations, for example. This may cause lengthy delays to development projects.

Improvised Explosive Devices (IEDs), developed from ordnance or mines, have been used against vehicles, as experienced in Iraq. Armoured vehicles may be required in areas where local antipathy exists against foreign interventions and development staff.

Mitigation measures for these risks to infrastructure development staff, and possible delays to programmes through clearance or procurement of security guards or armoured vehicles should be considered in strategic assessments and planning processes.

3.1.4 Mitigation of conflict

In most situations, the triggers for conflict can be related to power and/or access to resources and, while the reconstruction phase provides opportunities to mitigate the underlying tensions, it is also possible to exacerbate them inadvertently. Mozambique (Box 2.2) provides one example of how this may occur. Some of the institutional (power) issues are considered in Section 3.3.

Physical infrastructure is fundamental to most modern societies and its restoration will provide evidence that tensions are reducing. However, if control of a key service remains with a particular faction, then tensions may continue. Alternatively, bringing all parties into the reconstruction process may begin to establish goodwill. In the Mostar example (Box 3.1), the water engineers from the two sides were negotiating restoration of a unified water system within a few days of a cease-fire, recognising that this would benefit both parts of the city. In this way, the provision of infrastructure was seen as a ‘bridge of peace’, as envisaged in ‘Service Delivery in Countries Emerging from Conflict’⁶.

Infrastructure reconstruction work is particularly vulnerable to poor security and renewed conflict because it requires specialised material and occurs at predictable locations. Therefore, it is vital to monitor tensions within the community.

3.2 Key stakeholders

Various actors will influence the successful reconstruction programme and the assessment process needs to identify the diverse stakeholders relating to the particular context. These may include:

Category	Stakeholder	General problems	Infrastructure problems	Alternative roles
Institutional	National Government	<ul style="list-style-type: none"> -May have been involved in conflict -May discriminate against opponents, reward loyalty -Viewed with suspicion by local population -Corruption 	<ul style="list-style-type: none"> -National policies and strategies are priority in infrastructure development -Opponents of government may target infrastructure -Issues surrounding infrastructure are political - decisions based on broad sense of security, economic and social agendas 	<ul style="list-style-type: none"> -Facilitate greater integration of disenfranchised groups, and access to remote regions -Seek legitimacy
	Local Government, including municipal authorities	<ul style="list-style-type: none"> -Lack of funding or support from central government -Too autonomous after conflict – little interest in development -Corruption 	<ul style="list-style-type: none"> -Projects may be too focused on local interest -Lack of wider participation 	<ul style="list-style-type: none"> -Closer relationship with local people (more accountable) -Provide additional support and legitimacy to projects -Active partner in reconstruction

Category	Stakeholder	General problems	Infrastructure problems	Alternative roles
Non-governmental and civil society	International Non-Governmental Organisations (INGOs)	<ul style="list-style-type: none"> -Uneven regional and project coverage -Patchy development -No regard to national plans or divisions/ inequalities that led to conflict 	<ul style="list-style-type: none"> -Mostly humanitarian aid -Not many long term solutions 	<ul style="list-style-type: none"> -Long-term sustainable support needed for infrastructure projects -Partnerships with private companies -Pooled resources/ cost sharing -Provide advice on conflict to infrastructure providers -Clear exit strategies
	Local NGOs	<ul style="list-style-type: none"> -Lack neutrality and impartiality -Lack of independent evaluation and accountability 	<ul style="list-style-type: none"> -Projects may be too issue specific -Lack of coordination with national objectives 	<ul style="list-style-type: none"> -Bridge between local population, INGOs and infrastructure providers -Help user groups/ consultation groups
	Civil Society Organisations, including user groups	<ul style="list-style-type: none"> -Focused on local issues -Not impartial 	<ul style="list-style-type: none"> -Projects may become hijacked by their involvement 	<ul style="list-style-type: none"> -Can aid in dispute resolution -Aid in raising local support for project -Increase long-term sustainability
	International Organisations e.g. UN	<ul style="list-style-type: none"> -Competitive rather than collaborative responses between bodies. E.g. such as between UN aid agencies competing for funds and awareness of their individual issues 	<ul style="list-style-type: none"> -Biased for own projects/expertise areas -Lack of unified approach between and within international organisation 	<ul style="list-style-type: none"> -Office for Coordination of Humanitarian Action (OCHA) established to improve coordination -Can aid with country and conflict experience
	International Committee of the Red Cross (ICRC)	<ul style="list-style-type: none"> -Neutrality may be seen as a sanction for conflict 	<ul style="list-style-type: none"> -Short-term maintenance of infrastructure 	<ul style="list-style-type: none"> -Neutral monitors -Help in planning for conflict mitigation/ resolution
Funding Agencies	Donor Organisations	<ul style="list-style-type: none"> - Political pressure at home may influence funding regions/ programme - Funding is not sustainable with few funds targeted for crucial few years after a conflict 	<ul style="list-style-type: none"> -Type of funds provided for infrastructure may be influenced by political strategies rather than needs -Reliance of home-state manufactured output 	<ul style="list-style-type: none"> -Work with INGOs and national governments to boost legitimacy and capacity beyond initial efforts for more sustainable solutions -Sensitivity of response needed to reduce partisan perceptions
	Multilateral donors and International Funding Institutions e.g. World Bank	<ul style="list-style-type: none"> -Terms for provision of funds and loans may be too rigid and bureaucratic 	<ul style="list-style-type: none"> -Provision of non-specialised procurement staff can delay projects -Procurement requirements can be too rigid and do not take into account timelines and immediate needs 	<ul style="list-style-type: none"> -Funding beyond immediate post-conflict period can increase sustainability of infrastructure development and aid in peace. -Can provide aid and guarantees for private companies -Increase state capacity and legitimacy through funding

Category	Stakeholder	General problems	Infrastructure problems	Alternative roles
Security Forces	Military Units, including former rebel forces	-Mistrust by communities -Security issues may be caused by military to justify presence -Involvement in conflict	-May requisition use of infrastructure types according to own needs -Assistance with rehabilitation may be linked to political and national objectives	-Aid in providing security for infrastructure -Can assist with rehabilitation work particularly in insecure environments
	International Military Resources	-Political aims of home nation -Do not include civil society in decisions	-Development/protection provided to infrastructure may rely on political motivations of home nation	-Can assist with rehabilitation work particularly in insecure environments
Providers and Stakeholders	Private Companies e.g. Multinational organisations and local contractors	-No experience of conflict/region for Multinationals -Contractors may have close political links -Procurement difficulties	-Attempt to influence decision makers -Contractors who have survived through the conflict may have developed close political links -Tendering processes may be distorted through contracts awarded for political support	-Links and support with NGOs can aid better understanding, and better targeting of projects -Provide labour based infrastructure development – employment for locals -Work with donors to provide longer term solutions
	Local Populations	- Long-term causes of conflict not ended by peace agreements	-Lack of support for development projects lower sustainability or uptake of projects	-Creative use of civil society and user groups can increase sustainability -Their involvement can lessen hostilities/ causes for conflict

3.3 Institutional constraints and capacities

Progression from a period of conflict to one of peace is not a linear one. Many conflict situations can be described as ‘complex political emergencies’ (CPEs)¹⁸, whereby the conflict may not be strictly inter-state nor follow normal procedures of domestic conflict management. CPEs may also be characterised by political causality, or protracted durations and social disharmony. In these situations, as World Bank research indicates, there is a strong likelihood of further conflict. This means that post-conflict reconstruction must always be sensitive to the prospect of reversal.

The factors which caused conflict should remain matters of concern. Among these factors the role and legitimacy of government will be paramount.

One way of analysing the dynamics relating to conflict is to divide the issues into ‘Greed’ factors, meaning those that arise from the uncontrolled self-interest of individuals and groups, and ‘Grievance’ meaning the sense of injustice or alienation among the wider population¹⁹. In a post-conflict situation these two factors will continue to interact and both may need to be considered in relation to each

¹⁸ Goodhand, J. and Hulme, D. (1999) *From wars to complex political emergencies: understanding conflict and peace-building in the new world disorder*, Third World Quarterly, Vol 20, No 1, pp 13-26, CARFAX

¹⁹ Berdal, M. and Malone, D. Eds. (2000) *Greed and Grievance – economic agendas in civil wars*, Lynne Rienner, Boulder and London

activity.

For example, Nepal has sometimes seemed to be on the verge of peace, but the predatory ‘Greed’ of a minority, manifested as political corruption, has exacerbated deep-seated ‘Grievance’ especially in remote rural areas, leading to a level of support for the Maoist rebels. Infrastructural projects in Nepal, such as DFID’s support for roads and water supplies, need to address the issue of corruption (Greed) and be transparent in order to reduce negative perceptions (Grievance). This is reflected in DFID’s current Country Assistance Plan.

A government that has directed its energies to conflict will lack capacity to deliver projects in the post-conflict situation. International funding may be sudden and substantial but by overloading government capacity in the initial post-conflict period such aid can easily lead to waste, or open the way for corruption. This could lead back into a spiral of injustice that will make it difficult to achieve Millennium Development Goals and could even lead to further conflict.

Peace can be prepared in advance by building capacity within the state and preparing the groundwork of policy that will be needed when reconstruction begins. In Mozambique donors were able to contribute to rapid progress after the peace by beginning their preparations two years in advance.

Infrastructure as ‘bridge for peace’

Conflicts have regional, national and/or local impacts on infrastructure. Whilst the damage may be worst in the areas of greatest conflict, these may be the same areas that most urgently need assistance if peace is to be restored. This is where Quick Impact Projects on a relatively small scale may be especially appropriate. Lack of resources is commonly most acute in areas where tensions run high, and will probably be matched by poorly motivated, or non-existent infrastructure managers. Solving these problems may depend on strong political will at the highest level. In some cases, funding and capacity building for infrastructure areas may be prioritised according to objectives that do not necessarily meet the immediate needs of the people, such as export of energy, for example (Box 3.3).

Box 3.3: An unlikely ‘bridge for peace’ – Enguri Dam, Georgia

In Georgia, the Russian-built Enguri Dam stands at the boundary between the recognised state and the breakaway entity of Abkhazia. The dam itself lies within Georgia but the electric generation plant is in Abkhazia. The two sides must cooperate if either is to benefit. There has been no violent conflict for many years but harsh words have been spoken on the public stage. Nevertheless, the two sides have cooperated to produce electricity from the dam and there have been very few stoppages. The EU has provided funding for rehabilitation of some of the facilities, recognising that this is a major confidence-building measure. Support from the EU in this case, has been so crucial that it also *‘Allows the EC/EU to develop policy instruments, since rehabilitation can be offered in exchange for reciprocal concessions and mutual cooperation between the parties to the conflict.’* (EU, 2003)

Aid managers will need to gauge the level of input appropriate for the capacity available, but the peace-building role for such projects should never be ignored, nor the risk that faulty strategies could do harm in the sense of increasing the risk of renewed conflict.

3.4 Issues for implementation of infrastructure

3.4.1 Link between public and private infrastructure provision

The opportunities for significant private infrastructure provision in the early post-conflict period are likely to be limited by the opportunities available to investors. Infrastructure construction is time-consuming and costly, particularly where state capacities are low.

Governments have little capacity to absorb or allocate funds. Potential infrastructure users may have limited resources to pay for provision of services. Private investors are likely to be wary of investing too soon before the conflict is fully resolved.

Therefore, major investment by private organisations is likely to be appropriate only after a period of some stability, or where appropriate guarantees can be made that offset the risks. However, some private organisations may come forward to fill important gaps where the entry cost is relatively low and returns are rapid, such as provision of telecommunications immediately after conflict. The use of guarantee instruments and increased fund provision by donors can aid in greater uptake of private/public partnerships.

3.4.2 Corruption

Lack of regulation, legislation and transparency can lead to profiteering and mismanagement, both within government institutions and providers of infrastructure. Lack of regulation means that transparency and accountability are reduced and service providers, for example, can act as autonomous bodies; taking part in price fixing, monopolisation and repatriation of monies to parent economies through tax evasion in the case of international providers. Governmental bodies may also take advantage of these conditions to siphon aid funds for example, or to control the local contracting capacity.

Donor agencies can reduce the temptations for corruption within institutions, and private infrastructure providers, through requiring transparency in fund allocation and transfer (Box 3.4).

Public notices in newspapers, radio or television can be used to indicate to local populations where monies have been allocated and to what extent. New anti-bribery and corruption regulations in the UK (Box 3.5) enforce United Kingdom jurisdiction on such crimes committed by UK bodies and nationals overseas.

Box 3.4: Extractive Industries Transparency Initiative in Azerbaijan

In 2004, the Azerbaijan government signed an agreement with oil and gas companies as well as a local NGO coalition, setting out how income from hydrocarbons would be received and reported. The creation of this mechanism is key to re-establishing an accountability link between civil society and government regarding Azerbaijan's substantial extractive resources.

All parties expect that a first set of payments and revenue figures, collated by an independent auditor appointed by a committee with representatives from all sides, will be published in 2005.

Source: DFID, 2005

Box 3.5: Bribery and Corruption Laws in the UK

Part 12 of the Anti-terrorism, Crime and Security Act 2001 includes legislation on bribery and corruption.

From 14 February 2002, UK registered companies and UK nationals can be prosecuted in the UK for an act of bribery or corruption committed overseas.

The act creates two major changes to existing laws:

- It gives UK court jurisdiction over crimes of corruption committed wholly overseas by UK nationals and bodies incorporated under UK law.
- Pre-existing offences of corruption apply to the bribery of foreign public officials or office holders whether public or private, as well as those who work in the UK public sector or for UK 'principals'.

The maximum penalty for breach of these regulations is an unlimited fine and/or 7 years in prison.

Further information can be found on: www.hms.gov.uk/acts/acts2001/20010024.htm

3.4.3 Security

After a conflict it is likely that there will be a period of lawlessness and insecurity. The reduced availability of goods, services and in some instances food and water supplies, increases risks to those parties who are perceived to have supplies of such goods, such as international service providers. In places where hostilities can still run high against government forces or the international community such as in Iraq, there can also be increased risks to the personal safety of service providers. In the absence of effective police forces, donors may have to turn to private security services to provide support for their staff and associated contractors. If this becomes necessary, there are a number of risks to be considered:

- Private security guards are likely to be ex-combatants and unlikely to be 'neutral'.
- Private security companies may have undesirable connections and linkages.
- Security guards have an interest in making themselves indispensable.
- Donor staff and their contractors may be more easily identified as potential targets through use of security staff.

The lack of security may make infrastructure providers reluctant to undertake development work in these areas. However, these are often the areas which most require development. Anecdotal evidence from Iraq suggests that a large multinational organisation was reluctant to undertake pipeline or network connection and repair work, choosing only those projects such as reinstatement of water treatment works whereby staff could be protected in a 'compound'. Therefore repair works needed to convey the treated water to the people were not undertaken, increasing antipathy amongst local populations against the multinational company, invading forces and local contractors. The use of conspicuous company branded clothing may also increase risks to security of staff. Therefore, donors and service providers should be mindful of decreasing insecurity through the prioritisation of tasks and activities.

Distribution and transparency in allocation of funds for infrastructure projects can also cause security issues. In the absence of a strong economy/currency in the aftermath of a conflict, payments to local contractors and staff are made through cash transactions which involve added security risks for the storage and transport of such large sums of money. Alongside this, transactions need to be made transparent so that corruption and fraud are decreased and a greater trust and accountability is developed between donors, providers and governmental institutions.

3.4.4 Procurement

Although there may not be much scope for private infrastructure development after a conflict, procurement activities by national and international humanitarian organisations provide numerous opportunities for local businessmen. Insecurity will often make it difficult to check where supplies have been obtained. But an existing workforce can be supported and encouraged to resume its duties. However, in the chaos of post-conflict conditions, it is not unusual for such a workforce to be unmotivated and unpaid, leading to poor productivity. Alternative routes for procurement of infrastructure include:

- Direct employment of labour
- Engaging local/ international contractors and/ or programme management specialists
- Use of outside ‘peace-keeping’ units.

Most construction activities will be subject to government regulations of various types. Where government is weak, such regulations will commonly be poorly enforced. By following the national codes and regulations, reconstruction programmes can help to reassert government authority.

Donor agencies, through requirements in tendering and procurement of goods and equipment, have a major role to play in the successful and timely delivery of infrastructure. Common difficulties encountered by providers have been poor procurement managers and onerous and bureaucratic procurement practices. In Iraq (Box 3.6) after the 2003 invasion, a move was made away from a relatively successful and experienced private procurement firm, to procurement through the CPA (Coalition Provisional Authority). The US military agents used were wholly unsuitable for civil procurement tasks and in many cases were found to slow project progress. Providers felt that rigid tendering procedures imposed by the CPA and DFID did not account for the limited development timeframes and availabilities of many goods. Too many progress meetings and the need to justify the requirement for basic equipment for every project were also identified as key problem areas.

Donor agencies can ease facilitation and improvement of development through the following:

1. The use of qualified/experienced procurement staff who are aware of civil procurement as opposed to military procurement.
2. Consideration of current private and public institutional and monetary capacities in terms of tendering process. Where populations and particularly local contractors have little or no income, they are unlikely to be willing to wait for lengthy fund clearing and project approval processes required by the funding agencies.
3. Reducing the number of progress meetings required
4. Resist the temptation for a rapid move into UK ‘peace-time’ procurement practices when there is low institutional capacity for this.

Private companies may consider the following implementation methodologies for procurement:

1. International contractors or suppliers engaged for products and services should have in place a Corporate Social Responsibility strategy (CSR) or similar. In fragile post-conflict states where there is a lack of regulations and where profiteering and externalities in finance and corruption are rife, tools such as a CSR strategy could be used by providers to assess those tendering for contracts. CSR policies can demonstrate that an organisation has a commitment to ethical and sustainability issues, both in terms of its labour force and wages, and to the environment.

2. Avoid bribery or corrupt practices. Bribery and corruption encourage further such practices and can result in legal action.
3. Consider aspects of Health and Safety. Implementation of infrastructure projects particularly in areas of insecurity can pose safety implications for both providers and their contractors. A lack of local regulations may make enforcement of safe practices difficult, particularly in relation to local sub-contractors. However, providers and donors should ensure that the lack of regulations is not used as an excuse for not implementing health and safety plans, and require these plans from local contractors.
4. Social factors - Procurement of goods and services for labour based methods of infrastructure implementation can tackle issues such as unemployment and increase incomes, particularly for women, as implementation of infrastructure development can be a significant tool for their increased empowerment. Where possible, the involvement of women, establishment of user groups and labour based methodologies should be considered when designing strategies.

Box 3.6: Procurement - a provider's perspective (Basra, Iraq 2003- 2004)

Years of neglect and adverse weather conditions had caused pumps for water supply in Basra to stop and within a few days there were angry riots in the streets.

The UK military forces in Basra listed a raft of improvement projects and unilaterally assigned very challenging timescales to them. Three months were seen as optimal and used liberally. The shortest projects received priority to placate an angry populace. The timescales being optimistic, the delivery of equipment needed for power generation was in the event extended well beyond the promised and publicly expected target time.

At the same time

- Procurement as initially agreed by DFID and managed by their consultants, had been based on benchmark price comparison. However, around this time, the procurement cycle moved on to a more regularised, three quotes for everything basis, including shipping. This introduced further delays into the delivery and erection of all the components for infrastructure projects.
- Procurement, initially run by DFID approved procurers, was then passed to the Coalition Provisional Authority (CPA) operating in Basra. The CPA did not appear to have a strong procurement capability. Further delays followed with attendant civil disappointment.

The use of local contractors in projects caused problems as they could not carry the financial weight of the projects, and alternative methods of up-front part-payment and interim payments by cash were initially found. This had eventually to be paid through the DFID and then the CPA system. Contractors slowed work and in some cases stopped when they ran out of money. The system employed also imposed an extra and heavy administrative load on both infrastructure providers and the Contractors, for which they were not always prepared.

3.5 Financial contexts

Government expenditure increases during conflict with little or no means of a return income, through reduced or non collection of taxes as well as embargos and lower mobility. Government funding of institutional bodies and ministries is often reduced to the bare minimum and non-conflict related activities may suffer cut-backs, particularly infrastructure development. After a conflict, institutions and ministries often lack the funding or the capacity to absorb external funds, a political will or infrastructure to finance much needed developments.

It is crucial to the success of any infrastructure development programme to enhance existing capacities and create new avenues for investment. The use of methods such as public private partnerships (PPPs), multilateral investment guarantee instruments, and support for the creation of flexible policy and regulatory instruments (CEPA, 2004), can aid in ensuring that funding for infrastructure goes beyond aid and humanitarian relief provided in the first few post-conflict years.

Funding to post-conflict and fragile states often has more demanding terms than to less developed perhaps more stable nations. To alleviate some of the constraints faced, the concept of '*Good enough governance*' should be applied. This term applies to securing infrastructure development funds from donors that recognise limited improvements, as often donors do not set terms and conditions that mirror national priorities and are too focused on deliverables, or highly visible output.

Traditionally, humanitarian relief funding in the immediate post-war period is easiest to secure from donor agencies. However, within a few years this funding tails off, or where it is provided, the conditions set for provision of funds in terms of targets to be met, are too stringent and bureaucratic for nations with weak institutional capacity and short term needs to meet.

Financing in this period is said to be most crucial for longer-term institutional and infrastructure development. Without large scale funding from international donor organisations, the role of private investment such as through PPPs becomes critical in filling the financial gap.

However, the perceived risks for many larger international and national investors in post-conflict countries are high. For example, those outlined by the 2004 CEPA study, include:

- Political/country risk – such as war, expropriation, contractual breach, currency transfer and lack of regulation and/or legislation.
- Financial risk – such as exchange and interest rates
- Commercial risk – such as performance, markets and payments.

Due to these risks, private investment (usually from large international organisations) in post-conflict nations is substantially less than that in more developed nations. Recent findings by a report from the World Bank's Operations Evaluation Department highlight 'inconsistencies' in provision of funds between wealthier post-conflict countries and low income post-conflict countries, the former receiving up to nine times more funding than the latter²⁰. This indicates that often much needed funds are not reaching those countries most in need. However, through the use of multilateral instruments and such guarantees as those provided by MIGA (Multilateral Investment Guarantee Agency), and other insurance types, some of these risks can be offset.

MIGA, for example, is an organisation which can ensure that political risk factors such as expropriation, breach of contract and currency transfer restrictions on investments in MIGA member nations, are protected against loss. Bilateral investment treaties can also offer some protection, and in the event of disputes, organisations such as the International Centre for the Settlement of Investment Disputes (ICSID) can be used.

Private public partnerships can also offer a degree of risk mitigation through risk sharing. Division and allocation of risks to the parties that are best able to manage them can lessen their impacts. For example, CEPA 2004 cite transferring performance risk rather than country risk to a private sector operator as a more efficient and acceptable way of managing this risk.

Recurrent cost financing

In a post-conflict situation, domestic funds are limited. Initial infrastructure development will rely heavily on capital investments. However, the sustainability of such programmes relies on local ownership and the capacity to maintain and improve beyond initial capital investments.

²⁰ Financial Times (20 May 2005) *World Bank under fire on spending priorities*, Financial Times

Key infrastructure donors such as the World Bank will provide loans to cover recurrent costs such as salaries, and replacement of worn-out capital. Donors of this type of funding will require a degree of sustainability to be demonstrated in debt management including the country's own ability to finance these costs after the period of the loan has ended. These loans are non-specific unlike bilateral donor loans, require greater domestic ownership and can be more responsive to a country's needs. They can also help strengthen political commitment to infrastructure programmes. However, as loans they must be repaid, are slow to process and can vary in quality and effectiveness.

Pooled Resources

Use of pooled resources can typically occur between donor organisations and national or local governments. Private companies undertaking infrastructure development in post-conflict situations can also use partnerships with a variety of groups and stakeholders, other than the public sector, to reduce financial risks. These initiatives undertaken, with, for example, NGOs, can be used to provide equipment such as vehicles and plant, in situations where these may be scarce or too expensive to purchase alone. They also encourage greater utilisation of shared resources, more efficient management of allocated funds, and aid in building partnerships.

User charges

The costs of infrastructure development can also be in some way offset by the use of user-charges for services provided. However, administration of these and collection of payments may prove complex in the absence of good state capacity, availability of employment and currency for local populations to pay for such services. Trading schemes for commodities other than money may be used to tackle the issue of low available currency.

3.6 Coordination of infrastructure service provision with other efforts

Donor coordination is, of course, very important and has been particularly effective in the case of East Timor, with strong UN leadership (Box 3.7). In the post-conflict environment the state is likely to be extremely weak and unable to properly coordinate aid inputs or to represent the wishes of the people. Without at least a level of initiative from the state, neither the UN nor other donors can take an effective lead.

In extreme cases, donors have found it necessary to set up alternative mechanisms even at the level of coordinating national policy. The 'Somalia Aid Coordination Body', made up of donors, NGO and UN bodies, has taken on some of the roles that would normally fall to government. In Nepal, the World Bank formed a 'Rural Water Supply and Sanitation Fund Development Board' in response to a perceived failure of the government to deliver sustainable services. The Bank believed that political interference in project selection was leading to major distortions in coverage²¹. Such bodies allow non-state actors to play a wider role, enhance the capacity of the state and also act as a bridge between the state and the people. They can allow the state to exert wider control despite its internal weaknesses, while also allowing the people to make their views known to government.

The aim of coordination is not only to avoid waste and duplication but also to promote integrated responses. In an example from Cambodia, the provision of roads was linked to a strategy of reintegrating former combatants.

²¹ Berry, C., Forder, A., and Sultan, S. (2004) *Service Delivery in Difficult Environments*, PRDE working paper 3, DFID London (unpublished) pp11

Box 3.7: UNTAET coordinated capacity development in East Timor

In the post-conflict situation in East Timor, following the complete withdrawal of all the Indonesian troops and Government personnel, there was an extreme shortage of qualified or experienced officials who had the capacity or ability to manage the situation. This was foreseen and the UN Security Council mandated the UN Transitional Administration in East Timor (UNTAET) as an integrated, multidimensional peacekeeping operation fully responsible for the administration of East Timor during its transition to independence. The Transitional Administrator (TA), with support from the donor community, established an effective local administration, and prior to independence in 2002 UNTAET began the process of creating government portfolios, handing over responsibility partly to the East Timorese. UNTAET has continued to operate in East Timor even after independence to strengthen the Government and ensure the stability and security of the new state. The TA with independent international advisers allocated donor and UN allocated resources to rebuild institutions and infrastructure destroyed during the Indonesian withdrawal. In addition the advisers provided stability and training during the transition period. This process has assisted the new State of East Timor to develop its institutions and departments gradually.

A further critical issue to be addressed through coordination is the spread of resources across the country. This needs to be adjusted to take account of damage that has occurred during conflict as well as political sensitivities that may have emerged during conflict. In Mozambique, donors were directed by government to provide aid to the neglected north and west, rather than focus on the central and urban areas that had become the focus for aid during the war. In Cambodia, by contrast, aid agencies received no such direction with the result that the distribution of aid has been patchy and may have contributed to further inequalities.

3.7 Impacts of infrastructure development on insecure environments

Although there are some countries where the international community is willing to go to any lengths to support the peace, in many cases the situation remains fragile. At the extreme are 'failed' states such as Somalia which may have passed through a period of open conflict but where there is no recognised legitimate authority.

Instead of relying on military forces the international community may perceive a substantial role for aid in creating stability. Diplomacy, military inputs and aid may become integrated components of a 'coherent' response.

This is the rationale behind the UK's Global Conflict Prevention Fund which brings together resources from three Ministries and encourages joint strategies and responses. In Sierra Leone, for example, the aim is to support the stability of the state. The danger is that such aid is not neutral, and therefore becomes a target for opposition forces. Links with the state and military reinforce the perception that aid is politically motivated.

Aid agencies have traditionally reacted against such a scenario by following Red Cross principles of impartiality, neutrality and independence, but these may become untenable where the aim is to support a government that has not yet received universal recognition. For aid managers the problems are not in the clear-cut cases of post-conflict reconstruction but in those that are unclear, and where aid has to be used as an instrument of peace-building.

The World Bank has recognised that however difficult such environments are, it is important to remain engaged, at least in order to develop the potential to move forward quickly when conditions improve. The 'Low Income Countries Under Stress' (LICUS) initiative takes a flexible approach, supporting institutions that can aid in achieving stability.

DFID's 'Drivers of Change' approach is based on a similar principle. In unstable situations it is unlikely that large-scale infrastructural projects can be initiated but opportunities may remain for localised water projects or road-building. Instead of working with the state, such projects may be initiated with informal authorities such as traditional leaders. In such situations all the risks and factors identified in earlier sections of this report will be increased. As we move along the spectrum from fragile to failed states, and from countries that are 'post-conflict' to those that are 'emerging from conflict', projects must become more opportunistic and flexible.

4 Technical challenges in planning reconstruction work

4.1 Identification of key sector characteristics and implementation timelines

Pre-Visit briefings

To reduce risks to staff, increase conflict awareness and sensitivity and reduce possible risks that infrastructure development may have on a return to conflict, it is essential that all outsiders who will play a part in local recovery and re-instatement of infrastructure should be made aware by briefings of the following:

- The history and geography of the region leading to latest conflict (the protagonists, winners and losers)
- The current security situation – who controls what area etc, depth of enmity remaining between the parties
- The names and roles of the major players, including donors and NGOs
- The key aspects of the peace provisions
- Timescales for:
 - External security provision – when does the army go home etc.
 - Provisions of key infrastructure elements – up coming winter, monsoon etc
 - Political events – elections etc – that will require infrastructure support.
- Cultural and religious sensibilities that must be observed or at least not offended.
- Existing plans and charts of the hardware in existence for the infrastructure

Assessment of damage vs. immediate needs

Local participation in determining short, medium and long term needs is important and must be given priority. Solutions imposed from above may not be received with overwhelming support in every case.

Immediate needs and solutions may well not fit with medium to long term objectives. However, plans for and implementation of short term measures can be made with an eye on the likely later work required.

Identify upgrades or replacement equipment needed

Post-conflict states are more likely than not to have an under-resourced, poorly maintained and out of date infrastructure of services. Restitution work inevitably brings with it a larger role of system updating, catching up on maintenance, refurbishing plant, carrying out long neglected repairs and expenditure on all-round improvements.

Having identified the medium and long term needs and the immediate objectives a plan is drawn up to identify and cost the various elements needed. Commonly it will be found that the money available is insufficient. The work of prioritisation then starts.

Prioritisation will need to involve as many local stakeholders as possible, balancing the ethnic, religious or tribal bias with impartial realism. This process must be visible and transparent. Unrealistic local aspirations for solutions beyond budget should be talked through, explained and understood between parties.

Costing and scheduling

Post-conflict situations where immediate needs are satisfied by wide-spread spending on emergency measures often occur. Such spending is recorded, sanctioned locally and can be measured against benchmark values for similar work. It is often run on a cash basis, involves much trust between the various donor parties and is set to solve problems that are vital, immediate and obvious.

Conversely, the regularisation of spending, the rapid introduction of western style procurement needing three quotations, even for separate transportation, and the setting up of a full purchasing organisation also exists. The solution moves rapidly from a small group solving immediate problems ad hoc but accountably to one that is more formalised, rigid and slow. It is the early imposition of this new system that we have seen de-stabilising the fragile first step solutions. The timing of the change and the immediacy of the transition have caused important perturbations in the supply of services, such as they are at that stage, with unpredictable results.

The transition from trusted and accountable funding of necessities by a few to fully regulated procurement by many should be gradually introduced over a period of time so that new, more complex systems and their executives can recognise and understand why things work as they do.

Implementation

There will be needed a strategy to cater for the users of the services, the local political aspects, the local skills available, the security that can be assured for construction, the mix of local and external inputs, the budget flows to support all of this and the need for overall programme management. Local participation will be considered at every level and the advantaged and disadvantaged recognised.

Early involvement with locals who have informed technical and system backgrounds can help in attaining realistic implementation targets, and reducing the number of schemes which are unrealistic. The re-establishment of local contractors should be encouraged by developing a number of small contracts with external support to develop management skills where necessary.

Payment currencies and methodologies for local contractors and staff must also be considered to prevent stops in programmes for payment delays. Lengthy or onerous procurement methodologies requested by donor agencies must be considered in scheduling.

Funding should be managed independently from Government systems if possible to avoid the diversion of funds to other local priorities. This can be achieved by using a separate local bank account for which the management team countersign the payment cheques with the local Government officers.

The success of those charged with managing and implementing infrastructure improvements is too often registered by separate plans, projects or actions being identified and approved at the beginning rather than over time being implemented successfully. Initial paper success can sometimes overshadow subsequent delivery. The use of mixed local and expatriate staff and contractors in rebuilding, whilst providing local income sources and employment, also ensures sustainability of a project in the long-term as it encourages ownership of the solutions.

It is with implementation that the largest opportunities for corruption and disruption will occur. Measures to counter this and secure both donor and local confidence will be required. Integration of parties within the management structure and transparency of implementation will assist this.

4.2 Typical sector challenges and needs

4.2.1 Communications

The restoration of telecommunications lends itself to quick early actions – satellite phone systems can be installed rapidly to connect key installations. Private sector providers may be rapidly active in implementing mobile phone networks.

Background information needed

- Access to telecommunication by local populations
- Technical personnel available
- Local contractors, and donor groups
- Security for telecommunications networks – are they prone to attack even after a cease-fire?

Assessment

Availability of communications is crucially important in a post-conflict situation, both for effective and timely organisation and other forms of infrastructure development, and for informing the public. Excessive damage to radio masts or the rebuilding of new networks can require long periods of redevelopment. In the short term introducing a mobile phone system is attractive if landline systems are very lengthy in relation to handsets and may have suffered below ground damage.

Costing and scheduling

Most telecommunications redevelopment can take place through the intervention of private investors and providers, at least in the short term, where quicker returns on investment are made. Prioritised schemes could include redevelopment of access for central and government systems through telephones, the internet and radio, improving communications with the general population and the outside world. Redevelopment of this sector also relies less heavily on coordination through government institutions to meet national objectives, than sectors such as power supply and transport.

Longer-term projects in increasing access to the public in more remote locations can be conducted through partnerships with various external commercial companies.

Implementation

Labour based methodologies in reconstruction work to incorporate local populations, and provide income and employment should be sought. Women's groups can also participate in redevelopment of this particular sector, through the installation of phone shops and stalls in remote regions (Box 4.1).

Box 4.1: Papua New Guinea – Telecommunications after Rebellion in Bougainville

In implementing the restoration works, the two previously warring factions, the Bougainville Revolutionary Army and the Papua New Guinea government, were able to work together in implementing a new infrastructure. This was achieved by pairing up people from opposing sides and getting the pair to achieve together the targets that had been agreed. As work progressed and targets were visibly achieved, confidence between the pair increased and helped to reduce some tensions.

In villages where only a few phones would be in place, a strategy of appointing a woman to run a 'phone call' shop was used. She would set up a stall each day, the phone on a table, and use would be made of it by others on a payable basis. This gave her a residual income after paying the base call costs and also allowed an improvement in the relative position of women in the village.

4.2.2 Energy

Background information needed

- Energy network information – internal and trans-boundary supply networks, spatial distribution. Existing plans and charts of the hardware in existence for the infrastructure, covering power stations, hydro plant, transmission lines, records of output, performance, loads, seasonal variations of load, energy delivered etc.
- Any apportionment of power provision along political lines.

Assessment

Energy provision is crucial to the rebuilding of many other infrastructure sectors. Restoration to pre-war facilities is not always recommended and consideration must be given to political sensitivities in overall system control, despatch and communication in the restored service.

The local power company / authority - preferably the central control staff - would be interviewed to assess the state of the system.

Extent of local power distribution should be assessed. It may reveal that sufficient local distribution capability exists to enable the population to exist by sharing until a longer term solution can be effected. Distribution of power to essential services will also be reviewed and put on the schedule for implementation.

Costing and scheduling

Lack of administrative infrastructure may cause difficulties in accurate costing. Assessment of existing and damaged power facilities such as units and power station will reveal key areas for redevelopment from unit level upwards as well as relative priorities.

Implementation

Schemes which have been prioritised according to immediate needs should be implemented first. These include the rebuilding of main generators etc. to provide visible improvements. Longer term programmes such as networks and distribution centres should be conducted in greater consultation with stakeholders. This will encourage greater ownership of schemes.

4.2.3 Transport

In the immediate post-conflict situation the most important challenge facing the community is communications whereby food, shelter, fuel and medical support aid and other requirements can be distributed.

Background information needed

- Land-mines, unexploded ordnance and booby traps on, or near to, railways, roads and bridges
- Network information
- Mechanical equipment and vehicles
- Factions resistant to reinstatement of communications into the territory under their control

Assessment

Inspections of roads and bridges should be undertaken with representatives of the local roads authority as well as those with the best available knowledge of potential hazards.

The initial assessments will focus on identifying the immediate restoration of access with assessment for longer term rehabilitation taking place once the network is operational.

Establishing costs may prove difficult if the conflict had been lengthy. It will be necessary to identify costs from first principles building up costs from individual unit costs for labour materials and equipment. These can be compared with unit costs for work in the region with appropriate allowances for accessibility and potential costs of removal of ordnance and land-mines.

Implementation

The issue of community involvement in identifying project prioritisation is more important at the access road level than at the primary and secondary level. However community involvement and particularly issues of gender involvement must be considered in project design as there are often a large number of widows of former combatants with children who need work. Hence the overall programme designs must consider child-care and the important role of women in project delivery.

The use of labour-based methods should be considered of primary importance in order to enable the optimum distribution of money to the local community (Box 4.2).

Box 4.2: Micro-level income generation from Mozambique roads

To support recovery of the rural economy DFID wished to design a project that would provide income at the micro-level. The World Bank wished to assist recovery of the local contracting industry. The overall project design combined these by setting up a labour-based contract form supported by equipment provided by the project that would be transferred to the small local contractors at the completion of the work provided certain criteria were met. An Institutional Development component was provided to support both the Road and Bridges Department and the contractors. Finance was secured through a mechanism agreed with Government whereby payments from a separate Bank Account could only be made with the signature of both the Consultants and the Government appointed officer.

4.2.4 Water and Sanitation

Water supplies are commonly targeted during conflicts. Temporary water supply during post-conflict conditions will be similar to that after any emergency; temporary storage tanks will be needed, to be filled by an emergency tankering operation from a clean source.

If underground sources are not available, then temporary treatment using unsophisticated flocculation, chlorination and possibly simple sand filters may be needed. The options are outlined in some detail by Davis & Lambert²², and several NGOs are well-experienced in this type of emergency work.

Background information needed

When considering restoration of long-term public supplies, issues to be considered include:

- Possible cross-contamination between sewers and water distributors
- Pre-conflict under-investment and lack of spare parts

²² Davis, J. and Lambert, R. (2002): *Engineering in Emergencies*, Intermediate Technology Publications, 2nd Edn, pp718.

- Few available details of buried installations; paperwork in public offices is particularly vulnerable during conflicts. Important to locate street-level maintenance operatives to assist in locating valves, tees, meters and other network fittings
- Pumping stations and other installations are likely to be mined.

Assessment

Often supply networks will require the greatest level of re-instatement or development in a post-conflict situation. However, these are generally overlooked in favour of the simpler more assured development of treatment works and pumping stations for example. Works need to be assessed and prioritised so that not only do populations have clean water, they also have access to it.

Implementation

Sewage infrastructure, where it exists, is less likely to have been targeted by the warring parties but more likely to be malfunctioning due to siltation and failure of power supplies. Clearing sewers requires costly specialist jetting equipment and usually takes second place to restoring clean water supplies.

Broken public water supplies are likely to pose health hazards through contamination by effluent from malfunctioning sewer systems. It will be necessary to make the public users of the water aware of this and of appropriate measures, such as boiling or household chlorination, which can be taken.

Associated with this, refuse collection is commonly an initial casualty of war, resulting in the rapid accumulation of large quantities of organic and inorganic waste. These dumps provide breeding grounds for a number of disease vectors, including rodents, flies and mosquitoes. Clearing these disease breeding grounds should be a priority and can often be organised fairly quickly with local municipal engineers, using excavators and large trucks.

Box 4.3: Monrovia water supply, Liberia

Monrovia's water supply system consists of a treatment plant abstracting water from the St Paul River, which, after treatment, is pumped through a single main 15km to the city. It was built in the 1960s and has not functioned properly since fighting started in the early 1990s when the supply main was cut. The gravity sewerage system was of similar age and became blocked by 1991 (Ockleford, 1991).

By 2003, after 13 years of insecurity, the water distribution network had been replaced by trucking from the treatment works and from newly-drilled boreholes and the city residents relied on simple pit latrines for sanitation. However, these were difficult to keep empty once the fighting resumed that year and the water trucking soon became unsustainable.

Aid agencies installed as many temporary tanks as they had available and replenished them when possible from the few wells close to the city. Pumps and other small plant became readily available in the days before the expected attack as city merchants off-loaded stock at discount prices. Well owners expected to be recompensed for the water used.

Once access was again possible, the priorities identified were clean water followed by sewage disposal for the 250,000 displaced people in the city. However, 10 months later (25 May 2004) the BBC reported that homes were without piped water, heavily-clogged sewer tanks had started to burst and that hand-pumps remained the main source of water for water sellers who were distributing it round the city. Reconstruction of infrastructure requires significant financial and political resources for realisation.

Source: Hodgson, 2005

4.2.5 Public buildings and shelters

Background information needed

- Displaced populations, both internal and refugees
- Camps and available housing
- Information on hospitals, schools and other key buildings damaged
- Particularly targeted structures, such as religious buildings

Assessment

- Damaged buildings should not be inspected internally without structural assessment
- Buildings may have been used for military purposes, and so should also be assessed for booby traps and mines.
- Reconstruction of religious centres, town halls and schools, which may have been targeted deliberately, commonly has a symbolic value greater than the actual cost.
- A system must be established for marking buildings that have been checked by structural engineers, and by military experts to demonstrate which are safe to enter.
- Returning displaced populations will require housing and shelter post-conflict which will strain existing resources. Shelter development must proceed with a view to accommodating large populations, as well as possible legal claims for restitution of property and land.
- Public buildings may provide temporary accommodation for many, but redevelopment of these for municipal needs must consider relocation of the families tenant in the buildings.

Implementation

There is a large body of experience showing that replacement of domestic buildings must involve women in decision-making. In most cultures, women traditionally are responsible for maintaining their homes and are best placed to advise on what arrangements will be culturally acceptable in the longer term as communities are reassembled. Involvement of communities in redevelopment of housing and restoration of public buildings will provide employment and sustainability to the project. Existing housing should be repaired where possible. Standards for construction should be set and maintained, with ensured access to water and sanitation for the new shelters.

Restoration of key public buildings such as hospitals, schools and police stations can signal a return to normality and help reduce tensions and insecurity for local populations. Rebuilding of religious buildings such as mosques and churches, where conflicts have been based on religious and ethnic divides, should be conducted with as much public consultation and local involvement as possible to ensure resentments do not resurface, and these buildings are not once again targeted by aggrieved factions.

5 A wider context for infrastructure?

5.1 Wider implications of infrastructure development

Provision of infrastructure after a period of conflict will be an important signal about the nature of the society that has emerged. Does it serve the needs of areas that had been marginalised in the past? Does it address the grievances that had been expressed during the period of conflict? Is it accessible to poor people? Has it been designed in such a way as to reflect the perceptions and roles of women? Are environmental and sustainability issues addressed in programme and designs? People will look at the infrastructure being built and read wider messages into it.

Secondly, infrastructure can either represent a return to the past in the literal sense of ‘reconstruction’ or it can better reflect wider international concerns, notably the Millennium Development Goals. Will it reduce child mortality, improve maternal health and achieve universal primary education? Will the power station remove the need for women to gather firewood and promote gender equality? Will the new roads and bridges take children to school or favour the advance of elite groups and the re-emergence of grievances and tensions?

In a post-conflict situation such concerns may go beyond the aim of reaching development goals and become connected to the task of supporting peace. This makes it important to focus not only on the primary objectives of infrastructure but also ensure that the processes reflect peace-making concerns. Is labour being drawn from all the different parties in conflict on an equitable basis? Does the project help people to participate in society and government or does it exclude them? Too much emphasis on urgency and humanitarian need may create serious problems for the future. Infrastructure programmes if correctly implemented can increase state legitimacy and capacity. Access to water, sanitation and power, can encourage the return of both internally displaced people and refugees, lessening the strain and potential for conflict in bordering nations.

While there are some generalizations that can be made, the effectiveness of projects in contributing to peace will be increased if the planning is based on specific analysis of the former conflict, and recognition of the issues that are likely to be sensitive. An effort must be made by infrastructure providers to identify all protagonists, particularly disenfranchised groups as these are the key players in increasing local ownership and long-term sustainability of projects, as well as security for providers.

5.2 Implications of infrastructure development in possible fragile states

It is important to recognise that insecurity is not simply an obstacle to development but also a direct threat to ordinary people. In its recent paper on security and development, DFID²³ notes that *‘Poor people cite safety as a major concern; they say it is as important as hunger, unemployment and lack of safe drinking water.’*

Therefore any project that provides a service such as water, power or transport must not in any way exacerbate the security risks for poor people. Improved water resources can lead to competition and conflict. Roads can bring arms traders and exploitative forces as well as development.

²³ DFID (2005) *Fighting poverty to build a safer world – a strategy for security and development*, DFID London

As infrastructural projects have such significant impacts they may become a target for security threats in themselves. In weak states, there may be little protection from the police. We have already noted there are risks associated with trying to protect such projects by means of private security services. This has led aid agencies to adopt an ‘acceptance’ strategy in relation to security. Instead of protecting themselves by arms and wire fences, the agencies seek to make their actions better understood and more acceptable to the community at large. The crucial issue is to get support from the local community to identify and neutralise security threats.

5.3 Policy level implications

In ‘classic’ thinking about development, reconstruction is the phase that follows a secure peace. But our report exposes a number of limitations to this view. Firstly, there is a question whether the peace is secure; in most cases it is not but rather needs to be nurtured by the way in which projects are designed and implemented. Secondly, there is a question whether the objective is actually to reconstruct what existed before or to transform the situation to one that is more likely to lead to achievement of Millennium Development Goals. The spread of infrastructure may have been uneven in the past; now is the opportunity to be fair and inclusive, or even address the inequalities that contributed to conflict.

We should recognise that infrastructure has the capacity to do harm as well as good. By nature it is capital intensive. It offers huge opportunities for employment, profit from contracts and benefit from services. In a divided society these things may become causes of contention or even violence.

Therefore, it is important to base infrastructure responses on a thorough strategic understanding of the factors relating to conflict. We have suggested that these can be viewed as ‘Greed’ and ‘Grievance’.

But whatever the typology, the important point is that we should not simply set out to rebuild what was destroyed without any order or method. Provision of infrastructure has to be a highly strategic activity.

The term post-conflict does not necessarily imply that peace has occurred. Often donor agency procurement requirements assume that this process occurs far sooner than in reality. Policy requirements at the donor level must allow some flexibility in procurement practices, recognising that delays in infrastructure programmes leading to lack of access to water and sanitation, for example, may increase instability and insecurity in some areas.

Regulation and legislation vacuums can increase instances of corruption, non-payment of taxes and expropriation of funds by multinational organisations. Large capital payments for projects by multilateral and bilateral donors should include clauses for transparency of fund allocation for infrastructure projects. Early engagement and capacity building of institutions can aid in mitigation for corrupt practices. Companies from the UK must now also be mindful of bribery and corruption laws.

6 Conclusions

Based on the literature studies, interviews and analyses undertaken within this work, we have drawn the following conclusions regarding donor support to infrastructure in post-conflict contexts:

- **Stakeholders** - It is vital to identify all the relevant stakeholders, including community civil society structures, and to ensure they are included in the reconciliation and reconstruction processes. It may be necessary to actively seek stakeholders as counterweights to those parties who promote themselves.
- **Early engagement** - Planning for post-conflict provision of the immediate needs in infrastructure sectors can be speeded up by early engagement and preparatory planning before a peace-agreement is signed.
- **Long-term commitment** - Evidence indicates that the optimum time for infrastructural investment to benefit growth is after peace has been consolidated for at least a couple of years. Recognising this, DFID has extended the length of its commitments, including ten-year Memoranda of Understanding (MoUs) in some cases.
- **Support to governments and institutions** - Major reconstruction activities must be driven by credible local or national government bodies. Such bodies may have been in existence for only short periods; further work on ways of developing viable institutional frameworks and appropriate funding partnerships is needed.
- **Governance** - Good governance forms part of the infrastructure response, including transparency and accountability in procurement. Within this there is urgent need to develop quick, acceptable and workable ways of procurement when under high and wide-ranging pressure; and also to restrain temptations to promise unworkable programmes.
- **Corruption** - Local purchase and procurement are important to aid recovery and assure continuity of long-term maintenance activities but give opportunities for corruption. Regulation and legislation vacuums can increase instances of corruption, non-payment of taxes and expropriation of funds by multinational organisations. Large capital payments for projects by multilateral and bilateral donors should include clauses for transparency of fund allocation for infrastructure projects. Early engagement and capacity building of institutions can aid in mitigation for corrupt practices. Companies from the UK must now also be mindful of bribery and corruption laws.
- **Conflict sensitivity and programming** - Through consideration of effective programme (including sector) prioritisation, inclusion of disenfranchised groups, aid in institutional development and longer-term strategies for infrastructure development, providers and donors can ensure that they address issues of conflict sensitivity in post-conflict infrastructure development.
- **Rapid restoration of essential services**, such as water, fuel and power supplies assists in the perception of a return to normality and hence contributes to the reconciliation process. Reconstruction of significant public buildings should be assessed in the light of the contributions they will make to the processes of reconciliation.

- **NGOs** have flexibility and freedom of action to be innovative during recovery and stabilisation phases of a post-conflict emergency but usually lack resources to undertake major reconstruction. Initial links that NGOs create can assist the larger donors that follow them – though the possibility that those NGOs will lose their neutral status presents additional hazards to workers on the ground. Specialist NGOs have roles to play in activities such as the development of civil society, building institutional frameworks and public health awareness.
- **Coordination** - The record of coordination in post-conflict situations is not good. In the immediate aftermath of peace there may be such a high level of political engagement that there is competition for projects, coordination is ineffective and the response is not only wasteful but fuels greed and grievances. There are cases where strong leadership through the UN has worked well.
- **Safety and security** - Undertaking significant reconstruction of infrastructure before cessation of hostilities is almost invariably counterproductive. Standards of work cannot be maintained and the repaired installations become new targets. Infrastructure providers can often be placed in vulnerable scenarios and exposed to risks such as UXO, mines and even kidnapping. Mitigation measures for risks to health and safety and associated training should be considered in the initial planning and programming stages. Coordinated efforts between infrastructure providers and military forces can aid in reducing risks to staff.
- **Strategic analysis** - There are tools available for strategic analysis of conflict-related situations but these have not been employed systematically. Our paper indicates the need for such processes.

We should recognise that donor support to infrastructure, within post-conflict contexts, has the capacity to do harm as well as good. Infrastructure by nature is capital intensive. It offers huge opportunities for employment, profit from contracts and benefit from services. In a divided society these things may become causes of contention or even violence. Therefore, it is important to base infrastructure responses on a thorough strategic understanding of the factors relating to conflict. We have suggested that these can be viewed as ‘Greed’ and ‘Grievance’. But whatever the typology, the important point is that we should not simply set out to rebuild what was destroyed without any order or method. Provision of infrastructure has to be a highly strategic activity.

Appendix A BIBLIOGRAPHY

Addison, T. (2003) *Africa's Recovery from Conflict: Making Peace Work for the Poor*; UNU/WIDER

Berdal, M. and Malone, D. Eds. (2000) *Greed and Grievance – economic agendas in civil wars*, Lynne Rienner, Boulder and London

Berry, C., Forder A. and Sultan S. (2004) *Service Delivery in Difficult Environment*; PRDE Working Paper 3, DFID London (unpublished)

Bryans, M., Jones, B. and Gross Stein J. (1999) *Mean Times – Humanitarian Action in Complex Political Emergencies – Stark Choices, Cruel Dilemmas*; Program on Conflict Management and Negotiation

Cambridge Economic Policy Associates Ltd (2004) *Commonwealth Secretariat – Harnessing Existing Financing Facilities to Promote Public – Private Partnership for Infrastructure Investment and Service Delivery in Post-Conflict Countries*; Cambridge Economic Policy Associates Ltd, Crown Agents

CARE International UK (2002) *Afghanistan: The transition from humanitarian relief to reconstruction – What peace dividend? CARE*
(www.careinternational.org.uk/priorities/policy_documents/afghanistan/submissions_to_idc.doc)

Center for Strategic and International Studies (CSIS) and the Association of the United States Army (AUSA) (2002) *Post-conflict reconstruction – Task framework*; AUSA and CSIS
(www.csis.org/isp/pcr/framework.pdf)

Crisp, J. (2002) *Mind the Gap – UNHCR, humanitarian assistance and the development process*; International Migration Review, Vol 35, pp168-91 (referring to UNHCR evaluations)

Cliffe, S. Guggenheim, S. and Kostner, M. (2003) *Community-driven reconstruction as an instrument on war-to-peace transition*; CPR Working Paper No 7, World Bank

Collier, P., Elliott V., Hegre, H., Hoeffler, A., Reynal-Querol, M. and Sambanis, N. (2003) *Breaking the Conflict Trap – civil war and development policy*; World Bank and OUP

Davis, I. (1978) *Shelter after disaster*; Oxford Polytechnic Press

Davis, J. and Lambert, R. (2002) *Engineering in Emergencies*; Intermediate Technology Publications, 2nd Edition

Department of Trade and Industry, Foreign and Commonwealth Office (2004) *UK Bribery and Corruption Law*; UK Trade & Investment (www.hmso.gov.uk/acts/acts2001/20010024)

Development Co-operation Directorate (Draft, 2005) *Principles for good international engagement in fragile states*; Organisation for Economic Co-operation and Development (www.oecd.org/dac/lap)

DFID (2005) *Why we need to work more effectively in fragile states*; DFID London

DFID (2002) *Conducting Conflict Assessments – guidance notes*; DFID London

DFID (2005) *Fighting poverty to build a safer world: a strategy for security and development* DFID London

European Union (2003) *Country Strategy Paper 2002-2006, Georgia*; European Union
(www.europa.eu.int/comm/external_relations/georgia/csp/index.htm)

Financial Times (20 May 2005) *World Bank under fire on spending priorities*, Financial Times

Goodhand, J. and Hulme, D. (1999) *From wars to complex political emergencies: understanding conflict and peace-building in the new world disorder*; Third World Quarterly, Vol. 20, No 1, pp13-26, CARFAX

Governing Council of the United Nations Human Settlements Programme (2005) *Post-conflict, natural and human-made disasters assessment and reconstruction*; UN Habitat, 20th Session 4-8th April, Nairobi, United Nations, 2005 (www.unhabitat.org/gc/gc20/documents/english/k0473696e.doc)

Green, R. H. (2001) *Rehabilitation: toward sustainable peace and reconciliation for redevelopment*; COPE Working Paper 39, IDS Sussex and Centre for Development Studies, University of Leeds (DFID funded)

Gross Stein, J. (2001) *In the Eye of the Storm – Humanitarian NGO's, Complex Emergencies and Conflict Resolution*; Peace and Conflict Studies

Hanlon, J. (1996) *Peace without profit –how the IMF blocks rebuilding in Mozambique*; James Curry, Oxford

Hanlon, J. (2000) *Mozambique: Will Growing Economic Divisions Provoke Violence in Mozambique*; Swiss Peace Foundation (www.isn.ethz.ch)

Huggins, C. (2000) *Water Rights and Wrongs: State politics and local level conflicts in Kenya and Tanzania*; African Centre for Technology (www.acts.or.ke)

Jackson, T. (2001) *Access to Education in Burundi*; International Alert London

Macrae, J. Ed. (2002) *The new humanitarianisms: a review of trends in global humanitarian action*, HPG Report 11, ODI London

Montes, C. and Wolfe, T. (2000) *Evaluation of EC Country Strategy: Mozambique 1996-2000*; Investment Development Consultancy, France and Development Strategies, Italy

Norwegian Refugee Council (2003) *Shelter*; Norwegian Refugee Council,
(www.nrc.no/nrc/core/shelter.pdf)

Nyheim, D., Gaigal, C. and Leonhardt, M. (2000) *Seven Steps for Conflict Impact Assessment – a methodology for planning in conflict*; International Alert, Saferworld, Fewer

Ockleford, J. (1991) *Coordination of emergency relief in Liberia*; In 'Technical Support for Refugees', Ed. Reed, RA. Loughborough University

Rohland, K. and Cliffe, S. (2002) *The East Timor Reconstruction program: Successes, Problems and Trade-off*; World Bank

Schwartz, J., Hahn, S., Bannon, I. (2004) *The Private Sector's Role in the Provision of Infrastructure in Post Conflict Countries*; Public – Private Infrastructure Advisory Facility

Smith, A. and Vaux, T. (2003) *Education, Conflict and International Development*; DFID London

Vaux, T. and Visman, E. (2005) *Service Delivery in Countries Emerging from Conflict*; DFID London (unpublished)

Vaux, T. (2002) *The Selfish Altruist –relief work in famine and war*, Earthscan London

World Bank (2003) *Implementation Completion Report on a Grant of USD 6.8 million to the Democratic Republic of Timor–L'este for an Agriculture Rehabilitation Project*; World Bank

World Bank (2003) *Building Capacity in post-conflict countries*; Social Development Notes No. 14; World Bank

World Bank (2004) *The World Bank Operational Manual OP 6.00: Operational Policies - Bank Financing*; World Bank (www.wbln0018.worldbank.org/Institutional/Manuals/OpManual.nsf/)