JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DEPARTMENT OF WATER AFFAIRS AND FORESTRY
THE REPUBLIC OF SOUTH AFRICA

THE STUDY ON THE EXPANSION OF CAPACITY OF MAGALIES WATER IN THE REPUBLIC OF SOUTH AFRICA (PHASE 1)

FINAL REPORT

SUPPORTING REPORT (C)
GAP ANALYSIS

DECEMBER 1996

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SUPPORTING REPORT C: GAP ANALYSIS

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ABBREVIATIONS AND TERMINOLOGY

The following abbreviations are used in this report:

AADD	Annual Average Daily Demand
ANC	African National Congress
BLA	Black Local Authorities
BODA	British Overseas Development Agency
CAPEX	Capital Expenditure
CASE	Community Agency for Social Inquiry
CBOs	Community Based Organisations
CDE	Centre for Development and Enterprise
CIP	Capital Investment Plan
CRDC	Community Reconstruction and Development Committee
CRCS	Crocodile River Catchment Study
CSIR	Council for Scientific and Industrial Research
CWSS	Community Water Supply and Sanitation
DAF	Dissolved Air Flotation
DANIDA	Danish International Development Agency
DBSA	Development Bank of Southern Africa
DC	District Council
DCF	Discounted Cash Flow
DFA	Development Facilitation Act
DWAF	Department of Water Affairs and Forestry
ESA	Extended Supply Area of Magalies Water Board as gazetted in April 1996
ESCOM	Electricity Supply Commission
GIS	Geological Information System
GNU	Government of National Unity
GSWCA	Government Subterranean Water Control Area
GWCA	Government Water Control Area
GWS	Government Water Scheme
IB	Irrigation Board

IBS	Irrigation Board Scheme
IDT	Independent Development Trust (NGO)
IFR	Instream Flow Requirements
IMT	Interim Management Team
INR	Institute of National Resources
JICA	Japan International Cooperation Agency (the official agency responsible for the implementation of the technical cooperation programmes of the Government of Japan)
LAPC	Land and Agricultural Policy Centre
LRDC	Local Reconstruction and Development Committee (Local RDP Committee)
LWC	Local Water Committee
MSF	Medicines Sans Frontiers
MEC	Member of Executive Committee
MW	Magalies Water Board
NELF	National Electrification Forum (ESKOM Database)
NGOs	Non-Governmental Organisations
NPV	Nett Present Value
NWP	North West Province
NWWA	North West Water Supply Authority
O&M	Operation and Maintenance
ODA	Official Development Assistance
ODO	Organisation Development Officer
OECF	Overseas Economic Cooperation Fund of Japan
PLP	Presidential Lead Project
PMC	Project Management Committee of the JICA Study
PSC	Project Steering Committee of the JICA Study
PWB	Phalaborwa Water Board
PWG	Project Working Group of the JICA Study
PWSSD	Provincial Water Supply and Sanitation Directorate
PWV	Pretoria Witwatersrand Vereeniging triangle (geographical area)
RBC	Rotating Biological Contactor
RDP	Reconstruction and Development Programme

RSA	Republic of South Africa
RSC	Regional Service Council (regional bodies established to facilitate and coordinate service provision across local boundaries. To be replaced by Regional and District Councils)
RWB	Rand Water Board
S/W	Scope of Works
SAMWU	South African Municipal Workers Union
SANCO	South African National Civic Organisation
SCOWSAS	Standing Committee on Water Supply and Sanitation
SDD	Summer Daily Demand
Setplan	Settlement Planning Services Consulting Engineers
SGT	Self-Governing Territories
SR	Service Reservoir
STW	Sewage Treatment Work
SWET	Sanitation and Water Education and Training Program
TA	Tribal Authority
TBVC	Transkei, Bophuthatswana, Venda, Ciskei (former ""independant"" homelands)
TDS	Total Dissolved Salts
THM	Trihalomethanes
TLC	Transitional Local Council
TMC	Transitional Metropolitan Council
TOR	Terms of Reference
TRC	Transitional Rural Council
VIDP	Ventilated Improved Double Pit toilet (latrine)
VIP	Ventilated Improved Pit Latrine
WP	White Paper
WRC	Water Research Commission
WRYM	Water Resources Yield Model
WTW	Water Treatment Works

UNITS

c	Cent (100c = R1)
ha	Hectare
kg/c/year	Kilograms per capita per year
kl	Kilolitre
kld	Kilolitres per day
km	Kilometre
km2	Square kilometre
l/c/yr	Litres per capita per year
lcd	Litres per capita per day
m3/c/yr	Cubic metres per capita per year
mcm	Million cubic metres
mcm/a	Million cubic metres per annum
mg/l	Milligrams per litre
Mld	Megalitres per day
R	Rand (R1 = 100c)

CHAPTER 1 INTRODUCTION

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1.1 Background

In August 1995, the Governments of South Africa and Japan agreed the scope of work for a technical co-operation programme focused on the expansion of the capacity of Magalies Water (MW). The Japan International Cooperation Agency (JICA) is currently undertaking the study in close co-operation with the Department of Water Affairs and Forestry (DWAF) in South Africa. The initiative to expand the capacity of Magalies Water is a direct outcome of South Africa's new Water and Sanitation policy, which is based on the Reconstruction and Development Programme (RDP). In terms of the policy, institutions like Magalies Water will extend bulk supply networks in the longer term, and will assist in stimulating and supporting local level water supply and management institutions in the short to medium term.

The overall framework of the JICA Study is as follows:

PHASE 1 - Formulation of a Master Plan

Stage 1 - Situational Analysis

Stage 2 - Formulation of a Master Plan up to the year 2015 and priority projects to the year 2002

Stage 3 - Recommendations on study methods and terms of reference for Phases 2 and 3

PHASE 2 - Feasibility Study on priority projects

PHASE 3 - Implementation of selected water supply and sanitation pilot initiatives

Against the background of the overall framework described above, the present JICA Study is concerned only with the Phase 1, formulation of an overall and strategic framework / master plan for the appropriately phased, long term, sustainable development of water supply infrastructure and sanitation, including appropriate Second and Third Tier support, in the Study Area. The formulation of a priority project to the year 2002, and an extended programme up to the year 2015 is included in the present JICA Study.

The first Stage of this Phase was a Situational Analysis. The purpose of this was to understand the socio-economic conditions, hydrological and hydrogeological resources, demand for water, supply of water, existence and condition of infrastructure, present standard and coverage of services, environmental conditions, policy implications, capacity and roles of the First, Second and Third Tiers, water supply attitudes and practices at the community level, financial situation, and water tariffs and cost recovery systems.

The second Stage of the Phase is to formulate a Master Plan which includes the Gap Analysis, the Policy / Strategy Recommendation / Plan, the Preliminary Study of Water Supply System

(Technical Solution), and the Economic/Financial Analysis of the formulated project(s) under pre-feasibility level including an initial capital investment plan.

The objective of the Gap Analysis was to establish a complete understanding of the Gap between the Current State (institutional, technical and financial) of water infrastructures in the Magalies Water Study Area and the desired future state, as presented in the Water Supply and Sanitation policy. The current state has been determined in the Situational Analysis. The future state is identified through key policy documents such as the White Paper on Water Supply and Sanitation, as well as the needs and expectations of the communities and other consumers in the Study Area.

The objective of the Policy / Strategy Recommendation / Plan was: to facilitate and guide the expansion of Magalies Water through practical recommendations regarding policy and strategy; to identify areas of national policy that support/hinder the expansion of MW, and to propose actions to be taken; to identify areas of policy in specific water sector and related institutions that require attention, and to propose appropriate actions; and to propose strategies to deal with institutional and technical gaps that are likely to hinder the expansion of MW, together with strategies that will facilitate the expansion process.

The objective of the Technical Solution was to quantify the technical requirements to achieve the standards and levels of service identified in the desired future state and bridge the Gap mapped out in the Gap Analysis.

The objective of the Economic/Financial Analysis is to quantify both the cost and the benefit to be incurred by and arising from the project proposals which are to be evaluated from various viewpoints of RSA's national economy and the second and third tiers' entrepreneurial stance. The lessons obtained from a series of analysis will be fed to further Phases 2 and 3 of this Study.

Key to the success of the JICA Study is the support and involvement of the main stakeholders in water supply and sanitation in the Study Area - Magalies Water Board, national and regional offices of DWAF, local authorities, district councils, local and Provincial Government, communities and their representative organisations, and NGOs. To ensure that this involvement occurs the following institutional arrangements have been put in place:

- The entire JICA Study is managed by a Project Management Committee (PMC), on which sits representatives of Magalies Water, Department of Water Affairs and Forestry and JICA. The PMC sits approximately once a month; and
- Project Working Groups (PWGs) have been established to oversee the activities of the Study Team and the local consultants. Three PWGs were established, which include representatives of key stakeholders, as well as MW, DWAF and JICA.

1.2 Composition of Master Plan Report

The Final Report is composed of an Executive Summary, Main Report, Supporting Reports and a Data Book. Each Supporting Report covers an individual part of the Study and has been prepared to provide detailed information to the more interested or specialist reader. The Supporting Reports are as follows:

A General Affairs
B Situational Analysis
C **Gap Analysis**
D Policy and Strategy Options
E Preliminary Study of Water Supply System
F Institutional Development Plan
G Economic/Financial Analysis

The Data Book contains primary data and information, and only a limited number of hard copies will be produced which will be held by key stakeholders (such as DWAF and MW). The contents of the Data Book will be made available in electronic format whenever applicable.

1.3 Purpose of Gap Analysis

The objectives of the Gap Analysis are to identify the major gaps between the present situation and development targets as required by policy / strategy / challenges / needs in terms of content and process. The information gathered would provide essential input into the strategy and policy component of this stage of the study, as well as building awareness among a wider group of stakeholders of water sector issues. The information generated will be carried through to the Technical Solution and thus the practical requirements for water supply in the Study Area.

CHAPTER 2 GAP ANALYSIS METHODOLOGY

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2.1 Overview of Approach

The Gap Analysis comprises 7 basic steps:

(1) Compilation of Overview Report of Situational Analysis

(2) Preliminary Identification of Gap

(3) Gap Analysis Workshop (Workshop 1)

(4) Research/Technical Study (Task Team)

(5) Task Teams Write-Up

(6) Consolidation/Confirmation Workshop (Workshop 2)

(7) Finalisation of Gap Analysis Report

To summarise these steps, information gathered in the previous stage is analysed in the light of development needs and policy requirements, and the gap identified between the practical implications of those needs and requirements and the existing situation. The shape and magnitude of this gap are extensively workshopped with stakeholders, as well as refined by relevant experts, to produce an unambiguous and understandable list of gaps that can form the platform for the development of specific strategies for the expansion of water supply and sanitation in the Study Area.

Each of the seven steps is described in the following sections.

2.2 Compilation of Overview Report

The objective of the compilation of this first step was to identify and document the key points determined in the Situational Analysis. This required that a summary report be produced of the findings of both the Community Inventory Survey and the Community Database Survey. This report was also workshopped with the JICA Study Team to confirm and agree upon the main findings.

Three documents were produced:

(1) An Engineering Component Executive Summary

(2) An Institutional Component Executive Summary

(3) A Financial Component Executive Summary

These three documents formed the basis from which the gap would be determined.

2.3 Preliminary Identification of Gap

The objective of this component was to determine the most important / key gap areas to be put forward for discussion with stakeholders at the first Gap Analysis workshop or for further research by the Task Teams that would be established at this workshop. The JICA Study Team and the Consultants worked jointly on this exercise, which had the following steps:

(1) Review Overview Summaries.

(2) Identify all significant Gap Areas, using knowledge and professional ability to interpret the findings of the Situational Analysis in terms of the challenge and ability to meet this challenge both in terms of content and process.

(3) Participation in confirmation meetings to agree upon the most significant gaps

(4) Prepare discussion notes for the gaps for the Gap Analysis workshop

In order to accomplish the above the Study Team had a number of meetings with the Chairs of the Project Working Group that had been established in the previous Stage (Situational Analysis), as well as with key officials of Magalies Water and some other key stakeholders, in DWAF and externally. Their input was invaluable in:

(1) Ensuring the accuracy of the data;

(2) Explaining some of the technical and financial issues in more detail; and

(3) Indicating which of the gap areas were perceived as highest priority, and why.

Meetings with DWAF officials took place during the week of 17 - 22 June, and a meeting with Magalies Water on 11th June. A table was produced that combined the engineering, institutional and financial components. For each component the development target, present situations in regard to that development target, and notes on the gap between the target and present situation, was identified. This table was used as the basis for discussions with key officials of DWAF, and Magalies Water. The table was thereafter refined to incorporate this input and the table was used as the basis for the presentation of the findings at the first Gap Analysis workshop.

2.4 Gap Analysis Workshop (Workshop 1)

The objective of this first Gap Analysis workshop was to discuss the gaps between the present state and the desired future state with all stakeholders. Through this, the consensus would be reached on the areas to be further researched, who should perform these activities and how representations would be ensured to guarantee legitimacy in the process.

The workshop comprised the following:

(1) Presentation of the preliminary identification of the gaps;

(2) Facilitation of discussions and breakaway sessions;

(3) Obtaining agreement with stakeholders on the gap areas, the action required and who should be involved to ensure representation;

(4) Formation of study groups for the next component and determination of an appropriate action plan to guide their work; and

(5) Documentation of the workshop and breakaway sessions

Fifty people attended the workshop, which was held at the District Council offices in Rustenburg on 25th June 1996. These included key officials from the national and regional offices of DWAF, Magalies Water, Rustenburg District Council, North West Water Authority, Greater Pretoria Metropolitan Council, Brits Transitional Local Council, KwaMhlanga Local Council, the Gauteng Provincial Department of Housing, Eastern Gauteng District Council, Highveld District Council, Klerksdorp District Council, and offices of the RDP of various provinces.

Group meetings followed the presentation of the information gathered by the Study Team, as a result of which a large number of gaps were identified. These gaps were then prioritised by the delegates. The meeting agreed on the formation of three Task Teams to undertake more detailed research, these being:

(1) Finance and Cost Recovery

(2) Enabling Environment/Roles and Functions

(3) Third Tier Reform

It was agreed that Magalies Water should be represented on all three Task Teams and that local authorities should be on the Finance and Cost Recovery and Third Tier Reform Task Teams. Two further ex officio representatives were selected for the Task Teams - Chief Pilane from Bafokeng and Mr Maluleke from KwaMhlanga. Minutes of the meeting are attached as Appendix 1.

2.5 Research / Technical Study

The broad objective of the Taks Teams has been stated above. The intention of the Taks Teams was to focus on specific issues rather than broad or general themes, and validate previous findings, views and perceptions, as well as investigate new related information. Specific objectives for all three Taks Teams were formulated and placed in four categories:

(1) Development Targets

(a) Review and examine existing development targets with a view to refining or recommending appropriate targets

(b) Advise on the desirability of current development targets, their consistency and linkages

(2) Current Situation

(a) Review and confirm current situations

(3) Identification of Gaps

(a) Evaluate and determine whether newly identified gaps are appropriate

(b) Refine and strengthen gaps where appropriate

(4) Recommendations

(a) Prioritise gaps related to specific task team

(b) Identify gaps in terms of which strategies can be implemented easily or immediately based on short and medium term objectives

(c) Identify policy and strategy options and their implications

In addition to the above broad framework for the activities of the three Taks Teams, each task team was given more precise instructions on the requirements from that team.

Each of the Taks Teams produced a report on their particular area, with the reports being structured in line with the 4 objectives indicated earlier. These reports were presented to the JICA Study Team and feedback given for finalisation of the reports. Each of the Taks Teams thereafter prepared a summary of their team's work and findings. As with the first Gap Analysis Workshop, these findings were tested with key officials of DWAF and Magalies Water and were then tabulated for presentation at the actual workshop.

The three Task Teams were as follows:

2.5.1 Finance and Cost Recovery Task Team

(1) Participants

N Fenner/J Coetzer	Magalies Water
J Cuniff	Rustenburg District Council
M Malekutu/S Mahlansu	KwaMhlanga Transitional Local Council
Y Miyanishi	JICA Study Team
C McKudu	Deloitte & Touche
S Jazynka	Deloitte & Touche

(2) Specific Focus Areas

(a) Recovery of costs for the supply of services with all the varied complexities this implies

(b) Financing of service development where this is not covered by existing subsidies

(c) Process and system requirements for effective financial control

(d) Financial implications of different levels of service given ability to pay and the impact of willingness to pay relative to different levels of service

(e) The interrelationship between financial and other aspects

(3) Key Results

(a) The inability of service providers to recover costs from clients is a key problem and is due to a number of factors: administrative (lack of, or inadequate administrative systems in many areas to invoice users, collect the money, control bad debt and prosecute defaulters), technical (under-pressured supply, frequent breakdowns, inadequate service levels), cultural (background of service boycotts in the 1980s, belief in many areas that water supply is a free good and should not be paid for), financial (inability to pay the required rate), and functional (lack of role clarity by most institutions);

(b) The failure to recover costs implies ongoing subsidisation of water supply by Government, lack of government funds for new development, and system degeneration over the medium to long term;

(c) Misallocation of financial and other resources - understaffing of some organisations in the Study Area, and overstaffing of others, principally NWWA and Kwandebele Regional Water Supply.

2.5.2 Institutional Environment Task Team

(1) Participants

J Coetzer	Magalies Water
J Cuniff	Rustenburg District Council
J Nagy	JICA Study Team
Stephen Lear	Deloitte & Touche
M Maleta	Deloitte & Touche

(2) Specific Focus Areas

(a) Policy within which the institutions in the supply area operate, consisting of both overall national policies and those local organisations from provincial government downwards

(b) The regulatory, i.e. statutory and legal provisions governing operations and service provision

(c) Institutional, i.e. organisational frameworks, both existing and new, which create the capacity to deliver services (particular attention being given to clarification of functions and roles)

(d) The planning process and its capacity (including the integrating mechanisms between institutions)

(3) Results

(a) A number of gaps relate to the theme of lack of direction of institutions involved in water supply - poor understanding of roles and responsibilities, poor co-ordination between organisations due to this, poor or inadequate explanation by DWAF of some of its statements in the White Paper, and overall lack of experience of many organisations in undertaking their expanded or redefined roles;

(b) Concern over low levels of community participation, due to organisations not engaging communities appropriately (lack of experience), as well as a fluid and changeable situation at community level in regard to representative structures, issues and personalities;

(c) The overall economic environment is a key factor - high rates of joblessness, poor economic bases in many communities, poor education, health and housing.

2.5.3 Third Tier Reform Task Team

(1) Participants

J Coetzer/A Van Oppel	Magalies Water
Ms S Mbomvu	KwaMhlanga Transitional Local Council
M Mahlangu	KwaMhlanga Transitional Local Council
L Lloyd	Highveld District Council
A Oberholzer	Rustenburg District Council
Chief M Pilane	Bafokeng Tribal Authority
T Hart	JICA Study Team
J Nunes	RDC
P Forsyth	Deloitte & Touche

(2) Key Focus Areas

(a) Institutional functions and clarification of roles

(b) Current and potential future resources available to serve development requirements at the Third Tier (this was taken to include both human and financial resources)

(c) Managing processes including the ability to engage communities in the provision of services

(d) Capacity to manage the transition process and to manage future development (this was taken to mean both short and long term goals and include consideration of such things as support networks)

(3) Results

(a) A key gap is the lack of programme, or failure to spell out the programme, for building the capacity of the Third Tier, now that local government elections have taken place. The support role of second tier structures for the Third Tier has become extremely unclear, as they cannot work to any time frames or targets;

(b) As with the other Task Teams, a major concern over institutional roles and responsibilities, as well as major problems of inadequate and inexperienced staff;

(c) The Third Tier is where delivery ultimately takes place, but there is little or no experience of the necessary integration of services by multifunctional entities such as District Councils and Local Authorities.

2.6 Consolidation / Confirmation Workshop (Workshop 2)

The objective of this second Gap Analysis workshop was to further discuss the gap between the current state and the desired future state with all stakeholders, taking into account the work of the task team groups. The intention was to reach consensus and confirm the gaps to be addressed and how this information would be used in Phase 2: Feasibility Study on Priority Projects, of the project.

The second workshop took place on 23rd July at the offices of the Rustenburg District Council in Rustenburg. Participants numbered 40, including key officials of DWAF, Magalies Water, various District Councils and Local Authorities, delegates from Northern Province, RDP offices and Local Water Committees.

The workshop presented the refined Gap Analysis tables of the three Task Teams (see Appendix 2) - Context, Gap, Implications, and Recommendations. Questions were asked, and clarifications given. Small group sessions then took place, with the formation of three small groups, one each to consider each of the 3 Task Team's findings. The small groups were asked to:

(1) Confirm the Gaps as presented by the Task Team, and agree on modifications and refinements (including any new gaps that might have been missed)

(2) Identify and motivate priority Gaps

(3) propose actions to address the Gaps identified

The changes and recommendations were presented to the workshop in plenary, with the following matters requiring high priority action:

(1) Resolution of the debate around levels of service - the whole issue of non-acceptance by unserved communities of the RDP minimum service level;

(2) Cost recovery as the key to service delivery;

(3) Tariff equalisation;

(4) The need for local solutions, rather than blanket approaches;

(5) Linking of job creation to water supply;

(6) Clearer understanding of the cultural aspects of nonpayment; and

(7) Compilation of a database of best practices - why, where and how they work, and where they will not work.

The workshop was a success. The tables presented at the workshop are Appendix 2 and the minutes of that meeting are attached as Appendix 3.

2.7 Finalisation of Gap Analysis Report

As part of the process of finalising the Gap Analysis Report after the second (Confirmation) workshop further internal meetings and worksessions took place for the following purposes:

(1) To identify and remove any duplications in the Gaps identified by the three Task Teams

(2) To further refine and rephrase the final list of Gaps

(3) To consider the inter-linkages between the agreed Gaps

(4) To consider the recommendations attached to the agreed Gaps

An internal local consultants meeting took place on 24th July and a meeting between the JICA Team and the local consultants took place on 25th July. This enabled agreement to be reached on the Gaps, as well as methods by which inter-linkages could be identified and systematised. Agreement was also reached on the recommendations for some of the key Gaps.

CHAPTER 3 IDENTIFIED GAPS

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3.1 List of Gaps Identified

As a result of the work of the three Task Teams, plus the input of delegates at the confirmation workshop, a total of 23 Gaps was identified. There were, however, considerable overlap and duplication of these Gaps, due to the nature of the work of the separate Task Teams. An internal analysis of the Gaps after the confirmation workshop by the JICA Team and the consultants reduced the number of Gaps to 16. These 16 are as follows:

(1) Unclear Roles and Responsibilities - First Tier, Second Tier, Third Tier.

(2) Gap Between Policy and Legislation

(3) Lack of Communication and Co-ordination - Within and Between Tiers

(4) Lack of Handover Guidelines for Transfer of Personnel and Assets in the Water Sector

(5) Lack of Institutional Capacity - Human, Financial, Technical - As Well As Lack of Approaches to Bridging That Capacity

(6) Poor Deployment of Existing Capacity - Understaffing of Some Water Organisations in the Study Area, and Overstaffing of Others

(7) Gap in Expectations by Communities of Their Involvement in Water Supply, and the Views of Key Organisations

(8) Insufficient Capital Resources Within Organisations in the Water Sector

(9) Gap Between Community Expectations on Service Levels, and What Can Be Provided

(10) Gap Between Economic Value Placed on Safe Water in Policy, and Value Placed on Safe Water by Communities

(11) Lack of Commercial Experience of Water Boards in Retail Sector of Water Supply

(12) Highly Inadequate Levels of Cost Recovery

(13) Proliferation of Unauthorised Connections

(14) Lack of Integrated and Co-ordinated Service Provision

(15) Poor Understanding by Third Tier of Their Role in Development Planning

(16) Great Diversity in the Situation on the Ground - Between Rural and Urban Areas, Between Different Geographical Areas

3.2 Gap Descriptions

3.2.1 Unclear Roles And Responsibilities - First Tier, Second Tier, Third Tier.

(1) Concise description of a gap

Roles and responsibilities of a number of institutions in the water sector have not been clearly identified and assigned, both in the current transitional period and in the longer term. Those chiefly affected are:

(a) Water Boards, which have been assigned newly but fairly vague roles and responsibilities by the White Paper on Water Supply & Sanitation Policy. It appears that DWAF expects them to take on a high proactive role, particularly at the community level, whereas other players, such as District Councils, expect them to be confined to a much more reactive and limited role, not intervening to support capacity at the Third Tier unless specifically asked;

(b) District Councils have tier-straddling roles, but their renewed acceptance as a key role-player at the Third Tier is still evolving. Although they are well positioned to play a more critical role in planning, coordinating and implementing development, they are not self sufficient and are dependent on provincial budget allocations and levies which are used to support TRCs and LWCs. Their capacity also varies greatly;

(c) More guidance is needed from DWAF on clearly defining the role and decision making powers of LWCs as statutory bodies. The recent local elections of November 1995 have left the status of many formal and informal community organisations unclear of their role. There are still major problems in regard to the specific role for local government in the provision of water supply and sanitation and the development of local government systems in rural areas; and

(d) DWAF is responsible for setting the overall framework of what is required of the various organisations but has been weak on providing clarity and policy guidelines for specific water sector audiences. DWAF's own role at the regional level is still being defined: it still needs to exercise its powers to ensure an appropriate authority is designated to manage projects proposed by its Directorate for Community Water Supply and Sanitation; its executive functions have diminished in the presence of Water Boards; and other functions, such as planning of new services and allocation of central government funds will decline as effective local government is established.

(2) Implications

(a) It seems that DWAF has underestimated the magnitude of expanding the role and functions of existing Water Boards. The differing expectations being placed upon Water Boards are leading to them being confused as to what they should be doing and how energetically. This is leading to a degree of withdrawal from these conflict areas;

(b) Water Boards and District Councils are clashing on areas of jurisdiction, notably where, in the chain of water supply, the bulk supply of Water Boards ends and the local reticulation of District Councils begins. DWAF has done little in determining and defining the boundaries of water boards because of the on-going debate of whether boundaries should be based on political or provincial considerations; and

(c) The poor definition of roles and responsibilities is creating a situation where there is a lack of accountability, poor internal controls and procedures, poorly defined institutional goals, as well as initiative and staff motivation resulting in local management and planning falling far short of what is required. In addition, the wide gulf between local and other community based structures offers little scope for meaningful integration between short-term and long-term planning.

(3) General Comments /Discussion

The issue of roles and responsibilities was identified by all three Task Teams, indicating the extent of the problem. The two institutional Task Teams emphasized the institutional aspects of the gap: overlaps in functions; inability to fulfill goals and objectives; and poor service delivery; while the Finance and Cost Recovery Task Team focused more on the problems of accountability, financial control and achievement of targets.

This gap is due not only to lack of clarity on roles and responsibilities, but also to failure by various organisations to proactively define roles and responsibilities for themselves based on available legal and organisational data which can be communicated to other organisations experiencing the same problem. The myriad of regulations and government notices sending different and conflicting signals to role players, stakeholders, and beneficiaries have not been helpful. There is a suspicion that some of the organisations concerned with this problem are adopting an overly reactive approach, not realizing the importance of actively engaging with stakeholders to define their area of work.

3.2.2 Gap Between Policy Objectives and Attainment of Objectives Within Current Legal / Institutional Environment

(1) Concise Description

There is a gap between the stated policy objectives as specified in the White Paper and the attainment of those objectives. The current policies appear to be more the result of an accretion of interventions reflecting a wide range of pressures, situations and interpretations of what is needed rather than technically crafted structures. The failure to diagnose policy constraints on the achievement of objectives and the inability to formulate alternative policy changes in the White Paper and RDP is a major source of the current gap. Policy coordination particularly at the regional and local level and a conceptual framework to determine the sources of weakness in policy formulation has largely been absent.

In the case of Water Boards, the policy requirements of the White Paper differ markedly from the requirements of Water Act 54 of 1956. More generally the gap is considered to exist between the need to effect full cost recovery and the lack of systematic long-run policy direction and implementation to achieve cost recovery objectives. Moreover, the absence of a regulatory environment makes it difficult for Water Boards to enforce payment for services rendered resulting in a great deal of frustration in the water sector. The closing of this gap needs to occur within the context of proposed new water legislation which is needed to provide a firm legislative basis to deal with issues of enforcement of payment.

(2) Implications

The inability to achieve policy objectives and the lack of policy analysis and examination once again highlights the shortcomings in national water policy which can lead to obligations that might be unsustainable given the limited resources and capacity available. The intentions of the White Paper, while generally supported, are being increasingly criticized because of the inability to implement them. The focus should shift to successful attainment of policy goals and objectives to improve and enhance the perceived value of all policies and legal frameworks.

The gap between policy objectives and attainment of objectives is leading to ongoing reinterpretation, review and reshaping of stated policies. Examples are the revision of the statutory nature of Local Water Committees and reassessment of the support functions of Water Boards, but more needs to be done on clarifying roles. While such flexibility permits the modification of approaches in the light of practical experience there is concern that the failure to transform policy into legislation perpetuates uncertainty and lack of commitment.

The establishment of a legal/policy framework at both the national and local level is the driving force behind implementation of policy reforms in community water supply and sanitation. Lack of a framework makes action at the community level problematic since there are currently no market incentives for organisations to operate at this level in terms of existing legislation. A new Water Act with specific incentives would only be helpful to 2nd tier institutions and much more legislative action is needed at the local level to bring about the needed changes and provide the necessary incentives for private sector participation.

(3) General Comments/Discussion

This issue was identified by two of the Task Teams - Finance and Cost Recovery, and Institutional Environment reflecting the overall policy of DWAF on the issue. Although DWAF has, in broad terms, embraced the concept of private sector participation in the water sector, it still needs to establish the legal and policy guidelines under which the private sector can provide meaningful participation.

While the problem was readily identified, there was general difficulty in providing specific actionable recommendations to deal with this, with delegates at the Confirmation Workshop rather urging the need to have greater input into policy-making and formulation.

3.2.3 Lack of Communication and Co-ordination Within and Between Tiers

(1) Concise Description

There is limited communication and co-ordination between the First and Second Tier and the Second and Third Tier attributable primarily to undefined and unclear goals and responsibilities of the institutions operating at these levels. This is resulting in differing perspectives as to the objectives and methods for building water supply and sanitation capacity. The problem lies between DWAF and Provincial Government, DWAF and Water Boards, Water Boards and District Councils, and Water Boards and community organisations. The problem between the first and second tier is more one of management style rather than lack of communication, while that between second and third layers is more one of insufficient and, in some cases, mis-communication. Letters and communiques from DWAF reflect a rather autocratic and non-consultative management style; problems of boundary definition between Magalies Water and Rustenburg District Council appear to have been resolved through greater contact and appreciation of the challenges and problems both parties face.

(2) Implications

(a) Failure of institutions in the sector to realize the various complexities, interrelationships and the impact of local conditions is resulting in institutions operating at variance with one another;

(b) Poor or inappropriate communication tends to push central issues aside and over-emphasize issues of lesser importance. Matters of protocol and territorial integrity assume greater importance than necessary, while key concerns such as developing an inclusive strategy for cost recovery continue to elude role-players;

(c) White not fully supported by the Confirmation Workshop, it is believed the poor communication is a result of, and probably reinforcing, the dominance of key personalities competing in this sector; and

(d) Poor communication and co-ordination in the water sector is frustrating DWAF which is being evaluated on its ability to deliver the goals of the White Paper. This frustration manifests itself in a somewhat autocratic approach towards other organisations in the sector.

(3) General Comments/Discussion

This gap was mentioned only by the Institutional Environment Task Team and related to the communication and co-ordination gaps between first and second tier. The Confirmation Workshop saw this gap as more evident between second and Third Tier, particularly between Water Boards and the Third Tier and community structures, where the issue of accountability was focused upon.

3.2.4 Lack of Transitional Guidelines/arrangements for Transfer of Personnel and Assets in the Water Sector

(1) Concise Description

There is a lack of guidelines for the transfer of human, technical and financial resources in the water sector, particularly to the Third Tier. This transfer is necessary to maximize the use of scarce resources in this sector, freeing up resources (predominantly at the First and Second Tier) which can be deployed at the Third Tier where an acute scarcity exists. This matter afflicts the public service generally in South Africa, where there is a need to redeploy teachers, nurses and administrators to less attractive rural areas.

(2) Implications

This gap was introduced at the workshop and it was not possible to develop the implications in greater detail. The following suggestions are made:

(a) Overstaffing and understaffing problems, one of the gaps noted, will continue;

(b) The Third Tier will continue to struggle with capacity problems; and

(c) Necessary restructuring exercises will be delayed.

(3) General Comments/Discussion

This gap was identified at the second workshop where it was originally presented as part of the explanation of the gap between policy and legislation of the Third Tier Reform Task Team. Delegates in the Third Tier Reform small group discussing the Gaps identified this issue and requested it be dealt with separately. The consultants are not clear as to the exact nature of this issue but understand its importance to DWAF. It is still the belief of the consultants that this is more of a procedural matter related to capacity building than truly a key gap in its own right.

The lack of proper transitional arrangements has serious implications for successful management of RDP projects after implementation. A case in point is the two RDP PLPs in the Study Area currently being implemented by Magalies Water and Rand Water. Although implementation has been completed, the handover of these projects to LWCs

has been delayed because of poor preparation. In addition, LWCs lack the necessary training and administrative capacity to efficiently manage these projects.

3.2.5 Lack of Institutional Capacity - Human, Financial, Technical - As Well As Lack of Approaches to Bridging that Capacity

(1) Concise Description

There is an overall lack of capacity in the institutions in the water sector to fulfill their historic roles as well as additional roles placed upon them by new policy. This is a significant gap and is most acute at the Third Tier where some Local Authorities and District Councils exist almost in name only and lack most key personnel.

This capacity issue can be considered from a number of perspectives. In many ways several of the other Gaps identified can be subsumed under this general heading. Key aspects are:

(a) Lack of technical and financial capacity to have and maintain basic systems: controlling of budgets, billing of clients, management of personnel and development of customer relations;

(b) Lack of an overall national or provincial program of institutional capacity building at the Third Tier: capacity building is linked mainly to development projects which have a finite life and provide few opportunities for long-term employment; and

(c) Linked to the above, lack of information on the extent of the capacity requirement: where the problem is most acute; what type of capacity is most needed; and what opportunities or organisations exist that can provide support in capacity building.

(2) Implications

The implications of this lack of capacity are profound and go to the heart of the development challenge facing South Africa in the post-apartheid era. Essentially, development cannot take place if there is no capacity to run the institutions involved in this development. In the water supply context, this means:

(a) Inability to render an effective and efficient water supply service to clients, leading them, not surprisingly, to be reluctant to pay for that service;

(b) Even if clients were willing to pay for the service, the systems or people to run the systems, bill people for that service, collect the money or prosecute defaulters are not available;

(c) A vicious circle develops that discourages professionals from being employed in this sector, depriving the sector of the necessary management skills and experience to run

the organisations and strategies development. Professionals in the sector gravitate to the better paid and more accessible organisations; and

(d) Key implementing structures lack the systems and people to recover costs and become reliant on government grants for survival.

(3) General Comments/Discussion

All three Task Teams identified capacity as a key gap.

Support for local government is a provincial competence with provincial governments tasked with ensuring that efficient and effective local government develops in their respective provinces. Most provinces have specific Departments of Local Government for this purpose. However, the issue is extremely complex and it is unrealistic to expect provincial Departments of Local Government, themselves inexperienced and suffering manpower shortages, to be able to do much that is very meaningful. Most of them have had their resources stretched recently ensuring free and fair local elections.

It is being increasingly realized that the 'trickle-down' approach of empowering local government through provincial government technical and financial support is likely to be lengthy and costly. The same realization is dawning in regard to the support role of Water Boards to the Third Tier. It is anticipated that soon central government will take the decision to fund local governments directly rather than through provincial government as they have been doing in the past. This will help them to build their capacity independent of provincial government.

The problem of capacity in the water sector is also being realized to be one that requires a variety of solutions and approaches. Options are available to water and sanitation institutions to deal with this matter:

(a) Establish a service network that will allow the pooling and efficient use of existing capacity, particularly the establishment of operation and financial management systems;

(b) Possibly establish a discrete structure, such as a service co-operative, to physically pool these resources in one place;

(c) Engage private sector providers; and

(d) Develop internal capacity.

3.2.6 Poor Deployment of Existing Capacity - Understaffing of Some Water Institutions and Overstaffing of Others in the Study Area

(1) Concise Description

There is perceived overstaffing and understaffing of various water institutions co-existing in the Study Area. While it is difficult to be unequivocal here, two institutions, North West Water Authority and KwaNdebele Water Supply (the DWAF arrangement that has run water supply in the ex-homeland of KwaNdebele) account for over 80% of the total of 2 500 personnel currently engaged in water supply and sanitation in the Study Area and they are considered to be overstaffed both in terms of the level work required and their low levels of cost recovery. The remaining 20% of water personnel are spread very thinly across the other institutions: other DWAF regional offices, MW, Local Authorities, District Councils, Local Water Committees and NGOs. Many of these other institutions have extremely limited capacity.

(2) Implications

(a) The inefficient use of water personnel in the Study Area places additional pressure on the sector in terms of service delivery and cost recovery;

(b) Those overstaffed institutions are heavily reliant on government subsidies because of high overheads and low levels of cost recovery (about 10% of operating costs for KwaNdebele and possibly 50% for NWWA). Scarce funds thus continue to be funnelled into recurrent costs of the least efficient institutions, leaving less for capital development;

(c) Overstaffing problems will only be resolved through restructuring and reorganisation exercises which are lengthy, disputatious and politically difficult. Therefore, downsizing of personnel will be an extremely lengthy process;

(d) The continued existence of overstaffed, and in the case of NWWA, overpaid (relative to the State sector, as well as the market) structures is demotivating to other role-players working to achieve the goals of the White Paper in very difficult circumstances; and

(e) The subsidies required for these overstaffed structures probably also makes it difficult for DWAF to obtain a larger slice of the government budget as budget allocators will argue, understandably, that funds should rather be sought from the rationalization of the water sector.

(3) General Comments/Discussion

The overstaffing issue is intimately related to the homeland structures in the Study Area - NWWA was originally the Bophuthatswana Water Supply Authority and the KwaNdebele structure was a pre-1994 DWAF arrangement for water supply in KwaNdebele. In common with many of the other ex-homelands in South Africa pre-1994, KwaNdebele and Bophuthatswana heavily subsidized the provision of basic services, for both developmental and political reasons.

3.2.7 Gap in Expectations by Communities of their Involvement in Water Supply, and the Views of Key Organisations

(1) Concise Description

The White Paper on Water Supply, in similar vein to the RDP White Paper, is emphatic about the need to involve communities at all levels of development. The reasons are compelling:

(a) To be successful, development projects need to be sustainable. Sustainability has been demonstrated to be possible only if the beneficiary communities are involved n the planning, preparation and implementation of such projects;

(b) People, especially in the less developed areas need to be involved and knowledgeable about the services for which they are paying. If people have an understanding and sense of ownership, they are more likely to agree to the obligations and responsibilities placed upon them; and

(c) Community involvement is part of the broad thrust of democratization of South Africa. The previously disadvantaged communities were systematically denied information and involvement in the economic life of the country and now need to be exposed and educated in order to be able to fully participate in the new South Africa.

While community participation in water supply has been frequently espoused, the implications, approaches and requirements have not always been clearly understood. Historically DWAF operated more at the national level and was responsible primarily for supplying raw water to intermediate (2nd tier institutions). It therefore had little interface with the community. The same can be said of Water Boards who have been predominantly bulk suppliers of water to industry, mines and established formerly "White" municipalities. Regional Services Councils (now District Councils) were prescribed by the RSC Act of 985 to only allow participation by Black Local Authorities (BLAs). BLAs were widely seen as corrupt and illegitimate and were a specific target of civic structures in making the townships ungovernable. Homeland governments generally discouraged community involvement in development and often tried to disempower local government by removing the revenue base. NGOs and CBOs operated at a fairly low profile due to political repression.

While much progress has been made in reversing the above situation the past experience of many communities combined with the lack of visible delivery since the 1994 election has made the issue of community involvement from a policy perspective very dominant. This is compounded by the inexperience of service providers in this field, as well as the extensive education programmes needed at community level around basic issues such as payment for services, civic obligations, and the limits of involvement in service provider decision-making.

(2) Implications

The lack of community involvement in water supply has had the following effects:

(a) The whole issue of higher service expectations than can be met by DWAF goes back to the way in which standpipe level services were mostly imposed on communities without consultation. Many communities in the more affluent urban areas could afford a higher service level but have been denied the opportunity to request this service;

(b) The above issue is also at the heart of the problem of unauthorized connections. Unauthorized connections occur where an insufficient service such as stand pipes is illegally upgraded by individual homeowners to yard connections by putting in place pipes from the main pipeline to the property;

(c) Water Boards are being used by DWAF to provide support in the provision of services by the Third Tier. Communities are particularly suspicious of Water Boards because of their historic roots in the apartheid era and placing mounting pressure on these organisations to be transparent and accountable, sometimes in ways that the Water Boards are unable to be;

(d) Communities were not adequately consulted on their hopes and expectations for water supply when the White Paper was drafted. As a result the minimum service level (25 litres per person per day at a distance of 200 m) that government will pay without community contributions is seen as entirely unacceptable by many communities; and RDP projects to supply such a service are not getting off the ground because of this disagreement; and

(e) Water organisations are failing to recover their costs and thus provide a self-sustaining service, partly because consumers will not pay for an inferior service on which they were not consulted.

(3) General Comments/Discussion

While it is evident that community participation can contribute meaningfully to development it may not be a necessary and sufficient condition for the development of community water supply and sanitation. The very nature of the South African environment - lack of experience, lack of capacity, low level of education and training - might not lend itself to meaningful community participation and further complicates the reliance on communities for useful input. Community participation results in decision making by consensus is also characterized by lengthy drawn out processes which slows down the time required to effect change. This could be counterproductive to efficient and effective delivery of services. In the light of these circumstances, it might be prudent to review the emphasis on community participation and not assume this is a pre-requisite and the solution in all instances.

3.2.8 Insufficient Capital Resources Within Organisations in the Water Sector

(1) Concise Description

Communities require house connections which are expensive to install. At the same time development and upgrading of bulk supply systems and operations and maintenance of water supply works, particularly to the more remote rural areas is also expensive to implement. Provision of a decent water service is costly. The capital resources to undertake these ventures are not available within the organisations. The Third Tier is particularly under-endowed in terms of financial resources. Thus the gap exists between the financial requirements of water supply and the capital resources available to finance it.

(2) Implications

(a) Inability to implement development projects to even the minimum standard of the White Paper, let alone to the standards required by communities (yard connections cost approximately R1,700 per household, excluding bulk supply costs);

(b) Limitations on new development of bulk supply as well as reticulation of services; and

(c) Limitations on capacity building within organisations limits cost recovery and thus the sustainabilty of water supply at the local level.

(3) General Comments/Discussion

In the light of extremely limited resources, DWAF might want to consider reviewing its policy of focusing on quantity rather than quality of water supply and sanitation services to the disadvantaged communities. Rather than being focused on completing a targeted number of RDP water supply projects with limited capacity (25 litres per person per day), it might be better, given insufficient capital resources, to prioritize deployment of capital by investing in fewer projects with more emphasis on service quality (i.e., yard connections) and expanded capacity.

Service quality was raised as an issue by community representatives during the Finance and Cost Recovery Task Team meeting. At issue is the desire by the community for yard connections rather than stand pipes proposed in the White Paper. Although this has huge financial implications, it might be useful to explore the feasibility of investing in metered yard connections in the more urban black areas. This will result in fewer, but better quality projects which will probably be more sustainable in the long run. The key issue is the availability of funds to deliver this higher service level - government funds are limited and, even if it was agreed that financing a higher level of service was desirable, the financial requirements would inevitably require reprioritising government expenditure in a way that would have tremendous repercussions on policy, as well as the budget.

The minimum service level (25 litres per person per day) also means that RDP related community water supply schemes might have a problem in expanding capacity to accommodate the higher minimum standard requested by several communities. This again underscores the need to maximize the amount of capital invested in water supply projects by placing more emphasis on project quality, reliability and sustainability rather than achieving quantitative targets.

3.2.9 Gap Between Community Expectations on Service Levels, and What Can Be Provided

(1) Concise Description

Financing is the main problem in providing for the higher level of service that communities demand. These communities cannot pay upfront for the provision of yard connections, therefore bridging finance in the form of loans must be obtained. Water Boards are unwilling to borrow without government guarantees while government will only provide guarantees or lend itself for the basic level of service. The Gap is therefore not only the lack of government funding available, but also the lack of government guarantees for loans required to finance a higher than basic level of service.

There is an issue around how such upgrading would be practically implemented. From a technical point of view it would not just be a case of attaching yard connections to existing systems as the volumes being carried in bulk pipes is not sufficient for the higher levels of consumption that would occur. The entire system, including bulk supply, pumps and dam, would have to be upgraded to cater for yard connection consumption on a wide scale.

(2) Implications

Government will not guarantee funding above the basis service level and the private sector will certainly not invest in higher service levels in that situation. There is therefore no source of funding for a yard connection level of service. Given that many communities desire yard connections, this means that quality projects are being compromised at the expense of quantity.

While Water Boards have taken responsibility for maintenance and management of some of these minimum standard RDP projects, it is still unclear which aspects of the projects will be handed over to Water Boards and which to LWCs. The failure of recognizing the desire for yard connections will no doubt place continuous pressure on all levels of government. And questions will remain on the ability or commitment of community to water supply and sanitation projects which does not meet their needs and expectations.

(3) General Comments/Discussion

This gap was originally defined by the Institutional Environment Task Team as one of lack of capacity to implement projects to White Paper requirements but this was changed at the Confirmation workshop when the financing aspect was fully explained.

The rejection of standpipe service levels is related to community involvement in design and implementation of projects but must be seen against a broader backdrop. Standpipe service provision has been generally implemented in a non-consultative way. Poor administration and lack of funds have created problems of lack of maintenance, long tap queues, time spent waiting in line, breakdowns, unauthorized connections and long distance to walk to taps. In these circumstances it is easy to understand that users will feel in some way stigmatised, especially when they see the levels of service in the nearby affluent towns.

The workshop generated much support for the idea that government should fund a higher service level. Although this would not necessarily cause a renewed payment for services, it was believed that it would send a positive signal and break the current impasse on service levels. However, it is clear that Government has 2 alternatives -

(a) To fund a higher service level; and

(b) To find an alternative way to implement upgrading.

Either way DWAF has to send some clear signals quickly.

3.2.10 Gap Between Economic Value Placed on Safe Water in Policy, and Value Placed on Safe Water by Communities

(1) Concise Description

The White Paper on Water Supply clearly states that water is a scarce commodity that has economic value which must be paid for by users. However, many users surveyed in the Situational Analysis have little or no understanding of this concept and see water as a free good which should not be paid for. Many users also do not differentiate between water originating from taps and water obtainable from rivers. Since they do not pay for water from the river, they see no reason to pay for water from a tap. The gap is thus between the policy of water as a scarce resource and economic good which has value and the perception by communities that water is a free good or "Gift from God".

(2) Implications

Not all users have the view that water is free - mines, industry, municipalities and other established users pay for water. Free water is the view of individuals in communities, predominantly in the ex-homeland areas where there has not traditionally been payment for water for a variety of reasons. However, in the areas where this view is prevalent there are certainly implications in the provision of a water service:

(a) As long as the community perceives water as a free good, cost recovery directly for water supplied will not be possible jeopardizing the already fragile revenue base of many Local Authorities in these areas;

(b) Heavy subsidization of water supply will be required, but subsidies will most likely dwindle in coming years. In the long term therefore, sustainability of a water service in some areas is highly questionable;

(c) Combined with other problems in cost recovery for water supply (illegal connections, boycotts, unacceptable service levels, poverty, poor administration, etc.) the chances of obtaining full or some level of cost recovery becomes even more remote; and

(d) Finally, the continued use of polluted river water has serious implications for public health. The lack of awareness of the importance of safe water exposes people to illness from river pollution, poor health and a general reduction in their quality of life.

(3) General Comments/Discussion

Traditionally communities have used river water which has more than satisfied their, and other communities' needs. Ceremonies and rituals have developed around the routines associated with water collection and the arrival of rains. Payment for water challenges the historic experience, the community value system and the traditional economic base. In cases where water is paid for it is more the result of an overall level of development being reached. It is notable that the above gap is most prevalent in the more remote ex-homeland communities.

While there is non-payment for water in the more urban areas, this is more related to other factors and may, in a sense, reflect the realization of the value of safe water and the leverage that may be obtained from non-payment.

3.2.11 Lack of Commercial Experience of Water Boards in Retail Sector of Water Supply

(1) Concise Description

Water Boards have commercial experience in providing bulk supply service but are commercially inexperienced in the retail sector of water supply. The gap is therefore in the experience of Water Boards in the business aspects of community water supply.

(2) Implications

Water Boards lack the expertise in operating in the retail sector and in dealing directly with communities, but this has never been the role and function of Water Boards. This will have serious implications for Water Boards and for the water sector if Water Boards are expected to operate in unfamiliar territory. They are best at what they do, i.e. performing bulk supply functions to the Third tier. Therefore, requesting that they perform retail functions at the Third Tier might be to detrimental community water supply and sanitation delivery.

(3) General Comments/Discussion

Although this gap is strongly related to many other Gaps, particularly capacity constraints, it nevertheless questionable whether Water Boards should remain in areas where they are best at performing their tasks. It has not, however, been merged with another cluster. Since there is a specific business dimension to the identified gap, it was considered necessary to preserve it separately. This gap was identified by the Institutional Environment Task Team and considered to strongly support a key recommendation of the Finance and Cost Recovery Task Team, namely the creation of a service co-operative in the Study Area to pool managerial and professional capacity.

3.2.12 Highly Inadequate Levels of Cost Recovery

(1) Concise Description

The gap is the fundamental one - between the requirements of the White Paper and the principles of service provision which dictate that payment should be received for the provision of water - and the current situation in which there is widespread non-payment for water supply.

(2) Implications

If the cost of water supply cannot be recovered from users the following happens:

(a) Capital and operational costs have to be subsidized by government, who can then choose to redirect funds from other sectors to water supply. This will deprive other sectors of funds. In the long term the burden on the State in providing fully for such services becomes unsustainable and the services degenerate because of inadequate funding; and

(b) Whether directly or not, users will be paying for water supply. Taxes or levies may be raised to pay for this service otherwise consumers pay the ultimate price by sacrificing other services that they use - health, education, housing.

(3) General Comments/Discussion

This is one of the key Gaps but was only explicitly identified as such by the Finance and Cost Recovery Task Team, although it was implied in the Gaps of the other two Task Teams. It is also the most obvious problem afflicting water supply in South Africa and this clearly came through at the Confirmation Workshop.

3.2.13 Proliferation of Unauthorized Connections

(1) Concise Description

The inability to control the misuse and abuse of the water system as demonstrated in the widespread and increasing level of unauthorized connections. Unauthorized connections vary in type but are most common where a pipe is attached from a main street pipe to an individual property. The quality varies but it allows individuals to get continuous and free water direct to their property rather than collecting it at stand pipes.

(2) Implications

Unauthorized connections undermine any efforts to achieve cost recovery and provision of affordable levels of service. They can be performed very easily and cheaply and make a tremendous difference to the quality of life of a household. Not much can practically be done by the authorities to punish offenders and there is little social stigma to their use; a degree of pride is even attached to the quality of the work. However, their presence clearly discourages those who would otherwise wait for an official service upgrading including consumers who may otherwise pay a flat rate for a standpipe service and those who are prepared to work cooperatively to provide a water supply to the community. From a technical standpoint, water pressure drops considerably in the more remote parts of a supply system as a much higher level of use than catered for has occurred. Higher levels of consumption than anticipated in the design of a water supply system also makes the mechanical equipment work much harder, shortening equipment life and raising the costs of maintenance.

(3) General Comments/Discussion

There is debate about the way unauthorized connections should be dealt with. The options are to legalize them or to criminalize them. Legalizing such connections would mean surveying, standardizing, upgrading and regulating those in existence, and attaching meters to these connections to collect payment. Criminalizing them may mean ripping them up and punishing offenders. The latter approach requires a level of administration that is generally lacking in these areas. The former approach appears to reward perpetrators and penalize those who obey the law and pay for their services.

The White Paper states that unauthorized connections should be regularized within two years, but does not say how. In the meantime, these unauthorized connections are spreading very rapidly, prompted by dissatisfaction over non-delivery of development and even tacitly supported by some officials at the local level.

3.2.14 Lack of Integrated and Coordinated Service Provision

(1) Concise Description

Third Tier institutions manage a basket of services, not just water supply. This management has to occur in an integrated way. The capacity to provide an integrated and coordinated service is weak in the rural areas, in the former homelands, and in certain areas of former white South Africa where local authority management capacity has been depleted. In the case of the ex-homelands local government services were split across a number of homeland government agencies and integrating these under one roof will present a significant challenge. The integration cannot be led by sector specific institutions such as DWAF or MW.

(2) Implications

(a) The potential benefits provided by economies of scale in managing a basket of services are being lost;

(b) Re-integration of fragmented local government services in the ex-homelands present a particular challenge; and

(c) Those organisations that can provide the best practical support are sectorally based and have to wait on the initiatives of a non-sectoral organisation such as a District Council. While some District Councils have capacity, others clearly do not, nor do Local Authorities, thus delaying this necessary integration process.

(3) General Comments/Discussion

As core coordinating institutions at the Third Tier it is believed that District Councils should lead in planning and supporting the integration of services with respect to water.

3.2.15 Poor Understanding by Third Tier of Their Role in Development Planning

(1) Concise Description

There is poor understanding by Third Tier institutions of the importance of development planning and the role they should play. This gap relates to the lack of clarity on roles and responsibilities, but it should be noted that there does not currently exist any form of integrated planning framework in South Africa through which such organisations can better understand their contribution to the planning process and the requirements placed upon them.

(2) Implications

While organisations may be able to continue their day to day functions, it is likely that their inability to plan their longer term future will impact on the budget and financial

controls as well as their ability to formulate missions, visions, objectives and other guiding documents. Even the hiring and selection of staff will be compromised when there is no clear idea of the direction in which the organisation is headed and what it intends to do. Public confidence in their competence will understandably be diminished over time.

(3) General Comments/Discussion

The Development Facilitation Act is a key piece of legislation to support local level planning. It has now been passed but the benefits of it will only be felt once it is firmly in place.

A variety of practical recommendations on how to deal with this gap have been put forward by the Task Teams and the Confirmation workshop.

3.2.16 Great Diversity in the Situation on the Ground Between Rural and Urban Areas, Between Different Geographical Areas

(1) Concise Description

This gap was expressed in a few different ways but the point being made is that the White Paper on Water Supply has some implementation weaknesses, mainly due to the failure to appreciate the diverse nature of water supply at the local level. he White Paper seeks cost recovery yet the local economic environment in many areas is extremely poor: high levels of joblessness, migrant labour, poverty and lack of any economic base. There has also been a tendency to implement solutions developed in one local or situation and apply it to others, without appreciating the differences that may exist.

(2) Implications

The gap between the policy and the situation on the ground is leading to the setting of impractical development targets. The target of achieving full payment for at least recurrent costs over a period of two years is seen as unrealistic, as is the intention to regularise unauthorised connections in that time frame. The impracticality of some parts of the White Paper in relation to the experience on the ground is leading to a loss of confidence in planning, as well as the overall policy framework for water supply.

(3) General Comments/Discussion

While it is maybe unfair to criticise the application of policy on the basis of very specific local experience it is nevertheless true that there is widespread ignorance about the extent of poverty and joblessness, most notably in the ex-homeland areas. The economic rationale of these areas was entirely different to that of the non-homeland areas, being predominantly dormitory areas for the White towns and sources of cheap labour for the industrial parts of the country. With the collapse of the homeland administrations and consecutive years of drought the economic base of many of these areas has declined even further.

CHAPTER 4 PRIORITISATION OF GAPS

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4.1 Introduction

As a result of the work of the three Task Teams, combined with the input of the workshops, a list of 23 Gaps was produced. These have since been reduced to 16, as there were many duplications and overlaps that had to be removed. These 16 gaps now need to be listed in priority order for the following reasons:

(1) To finish the work of the three Task Teams, which had commenced this process;

(2) To support the involvement of the stakeholders, who had also undertaken some prioritisation at the workshops, as well as in discussions with the Study Team;

(3) To identify any useful trends or steps, coming out of the prioritisation process, that could be used for addressing these gaps;

(4) To identify any clashes or constraints that might occur where one system of prioritisation conflicts with another.

This section undertakes a fourfold system of prioritisation to indicate where steps may be first taken to address the gaps. The linkages between the gaps are a crucial component in this analysis, and will be addressed in the next section.

4.2 Criteria for Prioritisation

When the three Task Teams undertook their work they were asked to use a fourfold system of prioritisation for the gaps identified. These four criteria are as follows:

(1) Perceptions of stakeholders regarding the importance of issues.The priority stakeholders placed on the gaps, irrespective of how they arrived at these results. As such, there would inevitably be bias in the listing, based on the experience of stakeholders.

(2) Issues effecting more than one area, or Task Team.As implied, these would be gaps that were identified in more than one Task Team, directly or indirectly, or cutting across more than one tier of water supply.

(3) Areas where practical action can most easily be undertaken.There are areas in which immediate and direct action can be taken to improve institutional performance. The criteria here will be those actions which are possible, rather than those which are desirable but very difficult to achieve. These practical actions may be easily undertaken but will not necessarily be in high priority areas.

(4) Areas in which action taken may accelerate the ability of local authorities to implement service delivery.These may be suggestions for significant changes in areas of policy, or suggestions for small direct practical options.

The four criteria thus present different ways in which to look at water supply - from a stakeholder viewpoint, a political viewpoint, a local authority viewpoint and water supply delivery viewpoint. All of them are valid, but none in isolation are adequate to address the complex issues of water supply.

Using the three Task Team reports, the data from the two workshops and the stakeholder meetings preceding these workshops, the four criteria for prioritisation have been used on the sixteen gaps. Broad comments in regard to the 16 gaps have been recorded in terms of the requirements of the four different priority systems. Thus, STAKEHOLDER PRIORITY is recorded as HIGH, MEDIUM or LOW, or a combination of these, whereas PRACTICAL ACTION CAN BE EASILY UNDERTAKEN and ACCELERATE IMPLEMENTATION OF DELIVERY are recorded in terms of time horizons.

The results are shown in Table 4-1 of which key notes are:

(1) Although the stakeholder priorities were recorded in three separate Task Teams, there was notable similarity on the priority accorded gaps that existed in two or all three Task Teams. Where a gap has existed in more than one Team, the separate results are noted. For example, the issue of unclear roles and responsibilities was a high or medium priority of two of the three Task Teams; the gap between policy and legislation was a low to medium priority of all Three Teams; and the lack of capacity was a medium to high priority of all Three Teams. The only odd result was that of community involvement, where one team gave it high priority and another a low priority;

(2) The assessment of whether the issue cut across all Three Tiers was made by the local consultants, based on the results of the Gap Analysis. Ultimately, all gaps cut across all Tiers, but a view was taken on the extent this occurred directly, and a simple YES or NO score given;

(3) The assessment of whether practical steps can be easily undertaken has been based on the experience of the local consultants and the study team in undertaking such assignments themselves. It was thus viewed that initiatives to clarify roles and responsibilities could be conducted quite easily, through provincial workshops and other means. In comparison, the issue of insufficient financial resources is clearly a long term problem and initiatives to address this would also be long term;

(4) The assessment of whether implementation of delivery would be speeded up was based on the distance of the gap from physical delivery - policy changes were considered to be more distant from delivery than opportunities for projects that could achieve this, although the priority stakeholders place on a gap is also important in assessing this. Thus, the stakeholder priority of dealing with unclear roles and responsibilities implied that solving this issue would have a fairly immediate benefit. While some of the assessments may be a little broad, the complexity and interdependent nature of the water sector make any objective assessment of the extent to which solving a particular gap may accelerate implementation of delivery a little difficult.

The results of this exercise are:

(1) Stakeholder Priority - high high/medium priority attached to the need to clarify roles and responsibilities, build capacity, handover guidelines, improve co-ordination and communication and integration of services, address community expectations on service levels and views on the value of water; medium medium/low priority attached to addressing cost recovery, unauthorised connections, understaffing and overstaffing, development planning, community participation and the gap between policy and legislation; and low priority attached to the experience of Water Boards in the retail sector and the local economic situation.

(2) Gap Cuts Across All Three Tiers - Yes for roles and responsibilities, gap between policy and legislation, lack of communication and co-ordination, capacity, community participation and involvement, insufficient capital resources, cost recovery, and the economic situation; No for lack of handover guidelines, community expectations on service levels and safe water, experience of Water Boards in retail, unauthorised connections and integrated service provision.

(3) Practical Steps Can Be Easily Undertaken - Short term for roles and responsibilities, communication, capacity, cost recovery and role of third tier in development planning; medium term for policy, handover guidelines, community involvement, unauthorised connections and integrated service provision; and long term for insufficient capital resources, community expectations, and the economic situation at the local level.

(4) Intervention Will Accelerate Implementation - Short term for unclear roles and responsibilities, capacity, capital resources and community expectations; medium term for communication and co-ordination, experience of Water Boards in retail sector, cost recovery, unauthorised connections and integrated service provision; and long term for gap between policy and legislation, value placed on safe water, and current local economic situation.

4.3 Prioritised List of Gaps

Having recorded a broad representative statement of the priority of the 16 gaps on the 4 different criteria, scores were attached to these statements. The purpose of this was to be able to have a common recording system across all four criteria. This would allow the amalgamation of the points scored, giving an overall level of priority. The scoring is as follows:

Stakeholder priority:	High (3), Medium (2), Low (1)
Cuts across all Three Tiers:	Yes (2), No (1)
Something can be done:	Short term (3), Medium term (2), Long term (1)
Accelerates implementation:	Short term (3), Medium term (2), Long term (1)

The scoring is such that high stakeholder priority gaps, that cut across all three tiers, where practical steps can be easily implemented in the short term, and where delivery will be enhanced

in the short term, will have the maximum points, and the opposite of this situation will have the lowest points. The application of this scoring system and the totaled results is given in Table 4-2.

The priority gaps, from highest to lowest, are thus as follows:

(1) Unclear Roles And Responsibilities - First Tier, Second Tier, Third Tier.

(2) Lack Of Institutional Capacity - Human, Financial, Technical - As Well As Lack Of Approaches To Bridging That Capacity

(3) Highly Inadequate Levels Of Cost Recovery; Lack Of Communication And Co-ordination - Within And Between Tiers;

(4) Gap Between Community Expectations On Service Levels, And What Can Be Provided; Poor Understanding By Third Tier Of Their Role In Development Planning; Lack Of Integrated And Co-ordinated Service Provision; Insufficient Capital Resources Within Organisations In The Water Sector; Gap In Expectations By Communities Of Their Involvement In Water Supply, And The Views Of Key Organisations

(5) Lack Of Handover Guidelines For Transfer Of Personnel And Assets In The Water Sector; Poor Deployment Of Existing Capacity - Understaffing Of Some Water Organisations In The Study Area, And Overstaffing Of Others; Gap Between Economic Value Placed On Safe Water In Policy, And Value Placed On Safe Water By Communities

(6) Proliferation Of Unauthorised Connections; Lack Of Commercial Experience Of Water Boards In Retail Sector Of Water Supply; Gap Between Policy And Legislation

(7) Great Diversity In The Situation On The Ground - Between Rural And Urban Areas, Between Different Geographical Areas

4.4 Comments and Interpretation

4.4.1 Comments

Prioritisation of gaps and interpretation of the results must be approached with caution:

(1) The Gaps vary in type - some are descriptive, some process oriented, some strategic. Comparing them and ranking them creates the view that they are similar in type and, more importantly, in magnitude, and this is certainly not the case;

(2) The prioritisation has been of the gap itself, not the implications of the gaps, or recommendations coming out of the workshops and discussion groups. It may be more valid to prioritise the action steps to address the gaps, or measure and rank the impacts of the gaps; and

(3) The measurement of some of the gaps according to the 4 criteria may be considered subjective on one hand, and simplistic on another.

These points are acknowledged. However, the exercise has allowed a much better understanding of the nature of the gaps themselves, as well as imposing a system on very diverse data.

4.4.2 Interpretation

(1) While the scoring of the gaps is very close and it would have been better to have had a system that spread the results out somewhat more, it is quite clear that the highest priority should be the addressing of the lack of clarity on roles and responsibilities of the various institutions in the water sector. This is an issue affecting most stakeholders, cutting across all tiers, and where the most impact could occur;

(2) The lack of capacity of all types follows close behind and was not the highest priority because the stakeholder view was this - all the other criteria placed it on the same level as the roles and responsibilities gap. Again, this is not a surprising result - capacity problems are absolutely fundamental in all sectors of service delivery in South Africa, not just water supply;

(3) Third are two gaps - cost recovery and community expectations on service levels. Cost recovery is utterly critical to the water supply sector and Magalies Water ranked this highest but other stakeholders did not. The problem of communities not accepting the levels of service that DWAF can afford without a community contribution is presenting a tremendous challenge to DWAF and no clear and easy solution presents itself;

(4) The rest of the 16 gaps are no less critical but have been scored lower on one or more of the criteria. They are closely grouped, however, and should not be taken as less important than the highest priority gaps.

Table 4-1 : Criteria for Prioritising Identified Gaps

	GAP	STAKEHOLDER PRIORITY	CUTS ACROSS ALL THREE TIERS	PRACTICAL ACTION CAN BE UNDERTAKEN	ACCELERATE IMPLEMENTATION OF DELIVERY
1	Unclear roles and responsibilities	High/Medium	Yes	Short term	Short term
2	Gap between policy and legislation	Low/Low/ medium	Yes	Medium term	Long term
3	Lack of communication & co-ordination	High	Yes	Short to medium term	Medium term
4	Lack of handover guidelines	High	Yes	Medium term	Long term
5	Lack of human, financial and technical capacity	Medium/Medium/ High	Yes	Short term	Short term
6	Understaffing & overstaffing	Medium	No	Medium term	Medium term
7	Community involvement	Low/High	Yes	Medium term	Medium term
8	Insufficient capital resources	Medium	Yes	Long term	Short term
9	Community Expectations on service levels	High	No	Long term	Short term
10	Differing value placed on safe water	High	No	Long term	Long term
11	Experience of WB in retail sector	Low	No	Medium term	Medium term
12	Inadequate levels of cost recovery	Medium	Yes	Short term	Medium term
13	Unauthorised connections	Medium	No	Medium term	Medium term
14	Integrated & co-ordinated service provision	High	No	Medium term	Medium term
15	Role of III tier in development planning	Medium	No	Short term	Medium term
16	Reality of local economic situation	Low	Yes	Long term	Long term

Table 4-2 Prioritisation of Identified Gaps

GAP	TOTAL	STAKEHOLDER PRIORITY	CUTS ACROSS ALL THREE TIERS	SOMETHING CAN BE DONE ABOUT	ACCELERATE IMPLEMENT-ATION
Unclear roles and responsibilities	11	3	2	3	3
Lack of human, finan cial & tech capacity	10	2	2	3	3
Inadequate levels of cost recovery	9	2	2	3	2
Lack of communic ation & co-ordination	9	3	2	2	2
Expectations on service levels	8	3	1	1	3
Role of III tier in development planning	8	2	1	3	2
Community involvement	8	2	2	2	2
Insufficient capital resources	8	2	2	1	3
Integrated & co-ord service provision	8	3	1	2	2
Lack of handover guidelines	7	3	1	2	1
Understaffing & overstaffing	7	2	1	2	2
Differing value placed on safe water	7	3	2	1	1
Experience of WB in retail sector	6	1	1	2	2
Unauthorised connections	6	1	1	2	2
Gap between policy and legislation	6	1	2	2	1
Diversity of local situation	5	1	2	1	1

CHAPTER 5 INTER-LINKAGES

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As noted in previous chapter, there were originally 23 Gaps identified by the three Task Teams in their research and in subsequent discussions with stakeholders at the Confirmation Workshop. These 23 Gaps indicated a degree of duplication so the first step that was taken was to cluster the Gaps into discrete Gap definitions. This was done by the JICA Team and the Local Consultants through a workshop process, whereby the nature of each Gap was reviewed and either placed with another one, or retained separately. The methodology used was based upon the understanding of the workshop participants of the intention behind the identified Gap, as well as general knowledge of the water sector. Wherever there was uncertainty the Gap was left by itself. The number of Gaps was reduced to 16 and it is these 16 that have been reviewed in this report.

Once these 16 Gap clusters had been agreed upon, a process of identifying linkages was undertaken. A number of different approaches were used, mainly because the nature of the Gaps were very different - some were descriptive, some basic, some process-focused. Using different approaches has allowed the consultants to provide a much fuller picture of the linkages of the Gaps, providing a degree of choice to DWAF and MW on how they should use the assembled information.

5.1 Why Clusters and Linkages are Important

The identification of linkages is important for a number of reasons:

(1) It integrates the Gaps into a complete system, allowing a number of theoretical concepts to be applied to the complete set of Gaps to aid in understanding them and how to deal with them; these concepts are drawn from the system theory which provides a framework for viewing development as process which relates inputs and outputs.

(2) Cause and effect can be separated out - which Gaps are causing other Gaps, which Gaps are the result of other Gaps. A complete CAUSE - PROBLEM - EFFECT can be drawn up , allowing analysts to understand where intervention is most beneficial for the resolution of specific problems, and where intervention can have the maximum impact on a greatest number of other Gaps;

(3) There is a direct benefit to strategic planning, as the linking up of the Gaps informs the strategic approach, as well as the priority areas; and

(4) Identification of linkages allows the ranking of importance of the Gaps. While there has been a prioritisation exercise already dealt with in this report, that exercise was not able to comprehend the linkages, so the priorities outlined present a somewhat static picture of the identified gaps. Linking up the Gaps presents a much more dynamic picture of the water sector.

5.2 Approach

5.2.1 Clustering

(1) Clustering for improving formulation

There were originally 23 Gaps identified by the three Task Teams in their research and in subsequent discussions with stakeholders at the Confirmation Workshop. These 23 Gaps indicated a degree of duplication, the same gap was often differently formulated by the different group of stakeholders, so the first step that was taken was to cluster the Gaps into discrete Gap definitions. This led to a consolidated list of 16 Gaps.

(2) Clustering by process elements

To assure a consistent analytical structure the consolidated list of 16 Gaps was further clustered into process elements. This clustering was built upon the system approach whereby Gaps were regarded as elements of a broader system of inputs, throughputs and outputs in the development process.

Though very broad in its coverage, the system approach was regarded as appropriate for a study that cuts across various disciplines. Any analytical tool drawn from any of the particular disciplines of the study, namely finances, management, sociology or engineering, would fail to provide a global picture of the study object.

(3) Clustering by subsystems

Although clustering according to the concept of inputs, throughputs and outputs provides a good picture of the process elements it does not depict the subsystems entailed in the process. Further clustering was therefore required to group the Gaps according to the subsystem they belong to: Institutional Development Subsystem, Change Management Subsystem and Marketing and Community Involvement Subsystem.

5.2.2 Linking

(1) Pair link

An initial stage for establishing links between Gaps was to tabulate them in a pair relationship. This exercise helped to identify pairs that had no links at all and see possible link groups.

(2) Cross links

By re-sorting the same table according to the results of the first table it was possible to established a cross link between various Gaps highlighting group links as opposed to pair links.

(3) Significance links

While the pair link allowed identifying pairs that are linked to one another and the cross links identifies groups of Gaps linked to one another, the significance link allows qualification of the above mentioned links.

(4) Causal link

None of the above mentioned links are process links, they do not illustrate how the Gaps relate to one another in terms of their causality. This task is accomplished by the causal linking.

5.3 Justification for the Above Mentioned Approach

Two main reasons explain the selection of the above mentioned approach:

- Need for maximizing stakeholders participation.
- Need to come up with a study output that accommodates various disciplinary areas.

(1) Maximize stakeholders participation by a step by step analysis

To allow maximum stakeholders participation a list of Gaps were presented to them with a fairly loose structure. Such a structure was determined by the need to operationalise the study and did not follow a rigorous analytical approach; it was often recognised that the division of Gaps according to Finance and Cost Recovery, Institutional Environment and Third Tier Reform was only useful for the purpose of having a starting point to formulate Gaps. Alternatively, the consultants could have chosen an analytical model to structure the Gaps; this would make the participation of stakeholders meaningless. A step by step analysis which started with listing, went through clustering and finished up with linking served better the purpose of ensuring participation.

(2) Ensure a cross-discipline model

The study in question deals with a wide variety of issues, across various disciplines: management, social development and engineering. It was therefore necessary to select an approach that could accommodate them. Alternatively, each discipline area would have come with its own analytical tool making impossible an integrated picture.

5.4 Tools

The following tools were used to apply the above mentioned methodology:

(1) Matrix indicating Pair links

(2) Matrix indicating Group links

(3) Matrix indicating significance link

(4) Network Diagram indicating process elements and pair, group and significance links

(5) Problem Tree indicating causal links and subsystems

5.5 Application of the Methodology

The first step was to identify which Gaps could be linked to other Gaps. This was done by asking the following question:

"Will resolving partially or fully Gap X help in resolving either partially or fully Gap Y?"

Each Gap was addressed in this way, asking this question in relation to all the other 15 Gaps identified. The result of this exercise was a chart showing all 16 Gaps vertically and horizontally, with X's where a linkage was identified. This chart is as shown in Table 5-1. Re-sorting this table to list the Gaps in descending order of number of inter-linkages produces the Table 5-2.

The following may be established from Table 5-2:

(1) The total number of linkages is 55 (110 both ways) out of a maximum possible 120 linkages (16 X 15 / 2). This implies that each Gap has a link with 3.5 other Gaps (out of 15). The highest number of linkages is 5.5 and the lowest is 1.5, with 9 of the Gaps linking to 3 to 4 other Gaps;

(2) There is clustering of linkages. The top two Gaps (Lack of Capacity; Inadequate Levels of Cost Recovery) account for 21 out of the 110 linkages (12 % of the Gaps account for 19 % of the linkages). Nine out of the 16 Gaps (56%) account for 70 out of the 110 linkages (64%). Also, 4 of the Gaps: Understaffing/Overstaffing; Experience of WB in Retail Sector; Integrated and Co-ordinated Service Provision; and Gap between Policy and Legislation (25%) account for only 15 of the linkages (14%). is therefore clear that some of the Gaps have higher priority than others in terms of the number of other Gaps affected by them;

(3) The top two Gaps (Lack of Capacity; Inadequate Levels of Cost Recovery) all link to 6 other highly placed Gaps - Local Economic Environment, Insufficient Capital Resources; Value put on Safe Water; Role of Third Tier in Development Planning; Unauthorised Connections; and Lack of Communication and Co-ordination;

(4) Seven Gaps all link to each of the other 6:

Lack of Capacity
Cost Recovery
Community Expectations on Service levels
Unauthorised Connections

Local Economic Environment
Insufficient Capital Resources
Value put on Safe Water.

The interpretation of the above results are:

(1) The spread of linkages per Gap is not very wide, as a result of already having reduced the total number of Gaps from 23 to 16. If this 16 were reduced still further, the spread would be even narrower. The current, relatively narrow, spread does indicate that the reduction in total number of Gaps has been effective in reducing the outliers and extremes in the Gaps. The narrow spread in numbers of linkages makes the prioritisation of Gaps on the basis of number of interlinkages problematic and implies the need to differentiate the quality of linkages;

(2) The interdependence of the Gaps is apparent and would become more so through reducing the Gaps to 10 or 12. This is expected, given the nature of the water sector, and it may well be that others would identify a much larger number of linkages than has been done in this section;

(3) The above limitations being understood, it is apparent that there are half a dozen of so key Gaps that link extensively to each other, as well as having a dominant role in links to the other Gaps.

5.6 Diagram of Inter-Linkages

Table 5-2 indicates the existence of 110 linkages (two-way) among the 16 Gaps, meaning that there are 55 links in all. It is clear that trying to draw a diagram with 55 linking lines will render the diagram incomprehensible. The table has been taken, therefore, and each of the linkages evaluated as strong, middling and weak (S, M or W). These three levels of strength are numbered, as follows:

Strong	3
Middling	2
Weak	1

Table 5-3 presents this information, and linking all the Gaps where a 3 (Strong link) has been observed produces the diagram as shown in Figure 5-1. Adding the middling linkages (score of 2) develops this diagram further into Figure 5-2.

The 2 diagrams (Figures 5-1 and 5-2) have tried to use as few crooked lines as possible, to pass round Gaps in between two other Gaps. The diagrams have also tried to have as few link lines crossing other link lines. There are three crooked lines in the above diagram, out of almost 40 Strong and Middling lines in total, and about 40 places where one link line crosses another. More careful placing could reduce this to 30, but this would not fundamentally change the layout of the Gaps on the diagram. It is therefore believed the arrangement of the Gaps, although not

perfect, is fairly accurate. This exercise also tends to endorse the arrangement of the Gaps in the first diagram, where only the Strong linkages were represented.

The following observations are made about the two diagrams:

(1) The Cost Recovery and Human, Technical and Financial Gaps have the highest number of strong/middling linkages (9). After this comes Community Involvement, with 8 Strong and Middling linkages, then Value of Safe Water with 7, and Unauthorised Connections with 6. Thereafter there are a number with 5 linkages, and a few outliers on the periphery of the diagram with 2, 3 and 4 links;

(2) If the 2 outlying Gaps at the bottom of the diagram (which have the fewest number of linkages) are ignored, there seems to be three broad clusters in the diagram. In the top right hand corner are four Gaps - Insufficient Capital Resources, Lack of Capacity, Inability to provide an Integrated Service, and Under and OverStaffing - that all seem to do with the absence or poor deployment of resources. Below these four Gaps are three Gaps in a triangular formation - Communication/Co-ordination, Roles and Responsibilities, and Third Tier Development Planning - that all have to do with mechanisms and procedures necessary for the deployment of resources and the provision of services. This group could include the Gap Community Involvement, which can also be seen as a mechanism, not just an end result. On the left hand side are four Gaps - Unauthorised Connections, Local Economic Environment, Value placed on Safe Water, and Community Expectations on Service Levels - that all seem to describe elements of the situation on the ground. The Community Involvement Gap could also be included here. These three groups may be shown on the diagram as set forth in Figure 5-3.

(3) This approach seems to make sense, as the Gaps in each group have large numbers of links with other members of the group. What therefore becomes apparent is that there are two Gaps that do not fall neatly into one or other of these groups:

   (a) The Community Involvement Gap could be in any of the three Groups, although it has most numerous links with the Community Situation Group and Processes/Procedures Group;

   (b) The Cost Recovery Gap links equally strongly with all three Groups and cannot be described solely in terms of either the community situation, resources situation or mechanisms/processes and procedures;

(4) An Input-Process-Output approach can be applied to these groups. The process part of the approach is clearly evident in the diagram (PROCESSES/PROCEDURES), but both the Local Situation and the Resources Situation could be considered as inputs. It is not immediately clear what the outputs would be in this diagram, however. Cost Recovery may be considered an output, insofar as a high quality and sustainable water service is dependent upon cost recovery from users, but this is slightly to stretch the argument, and it is felt that ultimate deliverables should rather be those services and products that are experienced by the final consumers. Possibly the model illustrates that outputs in the

water sector are not absolute, but conditional. For example, an output such as a safe and reliable water supply is not desirable if it cannot be paid for by users, as it will be unaffordable. However, the model does make clear that addressing either one of the three groups does not imply the delivery of an output - solving the capacity problem of the sector is not an output, nor is the creation and maintenance of systems and procedures, nor is addressing unauthorised connections or the value placed on safe water by some communities. Involving communities in water supply is also not an output, but rather a means to an end, and cost recovery must be seen in the same light;

(5) What may also be noted from the diagram is that there is no single Gap that can be addressed that would solve the problems of the sector, nor the existence of a set of relationships that would allow the addressing of one Gap to have a domino effect on the other Gaps. Addressing the problems of resources in the water sector will have a tremendous benefit, but will not contribute greatly to some of the economic and social dimensions at the community level. Nor should one make the mistake of believing that resources being made available will be easily translated into systems and procedures for the sector to operate more effectively. By implication, even though Cost Recovery stands in isolation from the three groups, it cannot be addressed in isolation, and needs to be approached from the point of view of the multiple linkages it has with these three groups.

(6) Taking the three groups, and the location of the Cost Recovery gap in the centre of the diagram, a simplification of the information can be presented in Figure 5-4.

What this diagram (Figure 5-4) shows is Community Participation (the outermost ring) being the overall environmental given in terms of which the objectives of water supply is to be achieved. The next ring in is occupied by the three groups (Local Situation, Resources Situation and Processes/Procedures) that have been identified in the Interlinkage Analysis, with each of the three Groups having contact with Community Participation. In the centre is Cost Recovery, occupying this position due to it's central role in water supply, and interacting with each of the three Groups. Cost Recovery does not have a boundary with Community Participation as Cost Recovery is an all-embracing concept that is practically represented by the Gaps in the three Groups.

This model may be refined or changed, but the points coming through in the interlinkage analysis are made clear:

(1) Cost Recovery (and the implications of this) is the focus of strategic planning in the water supply sector;

(2) Community Participation is a key input to the understanding and solving of local problems, mobilisation of resources, and development of procedures and processes in the sector, but is not an end in itself; and

(3) The conditions on the ground, and the resources and systems required by partcipants in the sector are all equally important in achieving Cost Recovery, and collectively forming a set of necessary conditions, without which Cost Recovery will not be achieved.

5.7 Problem Tree Approach

A further development of the interlinkage approach being adopted is the use of a Problem Tree. An example of this is in Appendix 4. The problem tree was constructed using the identified Gaps and placing them in a meaningful relationship of cause - problem - effect. The example in Appendix 4 has only been partly developed at this point and further development will require some restatement of the Gaps to place them in a cause - problem - effect context. However, this initial exercise does illustrate that identification of root causes can be achieved, and this can be traced through to the consequences of these root causes. What the problem tree tells us is that the root causes of the current situation resides in the input elements of the development process: quality of staff, management and marketing know how. These are seen to impact on the throughputs of the development process, namely planning process, policy design and enforcement, represented in the diagram by central cause and problem. As a result of the current quality of planning, policy design and enforcement there is insufficient capital funds, the delivery is compromised and there is reluctance on the part of the Water Board to perform retail functions, which are the ultimate outputs of the development process.

Based on the same concept of inputs, throughputs and outputs, the problem tree provides a better sense of what is the central problem, the root cause and the effects. It also helps to group the problem according to the subsystems to which they belong - Institutional Development, Change Management, Marketing and Community Involvement. Once agreed and accepted, this problem tree can be inverted to create a solution tree.

5.8 Review of the Prioritisation and Interlinkage Analysis for Strategy

The amalgamation of 23 Gaps into 16, the prioritisation of these Gaps according to specific criteria, and the identification of key linkages between these 16 Gaps, has prompted a fairly intense analysis of the Gaps in question. While it is not believed the Gaps are exhaustive and another project might come up with a different set of Gaps, it is considered that the 16 cover the breadth of the water sector and there are no glaring exclusions from the list. The following observations are made in regard to the process by which the Gaps were identified and developed:

(1) The development of the Gaps in this project has allowed a clear assessment of the implications of these Gaps, and recommendations to overcome them. In this way, the Gaps have a fundamental role in the development of policy and strategy for water supply;

(2) The consultative nature of the project has allowed the full diversity of the Gaps to be recorded and analysed. It is notable that full opportunity to identify Gaps of a specifically technical nature was provided on the project, but that no such Gaps were identified. However, a broad spectrum of financial, institutional and socio-economic Gaps have been identified and developed in the project, so it is believed that the project has succeeded in embracing the diversity of issues facing the water supply sector; and

(3) The point is clearly made that no issue, gap or challenge in the water sector can be dealt with in isolation. All the Gaps link to a number of other Gaps and even those most expert in the field may be surprised at how some issues link up. Technical issues link to

institutional ones, financial issues to social ones. It is therefore not possible to focus on one area of water supply, use the relevant technical expertise and presume to solve the problem.

The above being said, there are a number of content issues that need to be understood, prior to using this information for strategic planning purposes:

(1) Both the prioritisation and interlinkage exercise indicate the difficulty in distinguishing the Gaps in terms of priority and linkages. The scoring of the Gaps in terms of priority bunched them up very closely, and the linkages exercise showed how very interconnected the various Gaps are. Whilst one or two Gaps have come through as critical in both exercises, they are of a very general nature; and

(2) Two of the Gaps - Lack of Human, Technical and Financial Capacity, and Lack of Cost Recovery - are in the top three priorities and contain the most linkages that are classified as strong or middling. However, both are very general Gaps - capacity constraints exist throughout all sectors of South Africa, and cost recovery is also an issue found widely in other infrastructure and service sectors in this country. The value of these Gaps expressed in their present form serves to focus on priority areas and demonstrate the interconnected nature of the sector. There may, however, be problems in using some of these Gaps in their present form in focused strategic planning in the water sector.

5.9 Application of the Gap Analysis Information to the Strategic Management of Water Supply in the Study Area

Water Supply in South Africa is a development issue, not merely a technical one. There is a focus on the poorest of the poor, a need to build institutional capacity, community involvement, economic development, and change management. These are typical issues in development programmes. The general nature of some of the issues indicated from the Gap Analysis is also typical of the development field, as is the integrated and overlapping nature of the Gaps that have been identified. As such, the strategic management of water supply, and the guidelines for such strategic management, need to be understood within the development context.

The following section seeks to help develop guidelines for the strategic management of the water sector in the Study Area and build on the findings of the Gap Analysis, by the application of the data to a framework used for the strategic management of development programmes. This framework has been developed on the basis of experience of development projects worldwide and is considered highly appropriate for the project under consideration. The use of this framework allows some conclusions to be made on how the strategic management of water supply in the Study Area should be approached, as well as a methodology by which more detailed strategy development could occur.

5.9.1 Introduction

Strategic management must consider four key influences which together determine the performance of a development programme. These four are:

(1) External environment

(2) Programme strategy

(3) Programme structure

(4) Organisational processes

The performance of a programme is influenced not only by each of these in isolation, but also by how they interact i.e. the degree to which they are consistent with.

5.9.2 External Environment

The external environment includes the forces outside a programme which create opportunities for, as well as constraints on, its growth. This includes prevailing political conditions, local institutional set-ups, as well as the physical, social, demographic and technical environment. The external environment comprises of:

- Diagnosis of the problems of the sector
- Identification of beneficiaries and clients
- Demand for, and supply of, services
- Key actors influencing demand and supply

(1) Diagnosis of the problems of the sector

The Gap Analysis made clear the importance of the local environment in the water sector - the poverty and joblessness in many communities, the prevalence of unauthorised connections, the expectations of communities as regard the level of services for which they should be entitled, and the existence in many communities of the view that water should not be paid for, or has little or no economic value. To this may be added the institutional environment of transition that is evident at all tiers in the water sector, with the problems and challenges this brings, and the diversity of the client population in the Study Area - from the poorest communities that have a very inferior standpipe service, to affluent towns that have a full municipal water supply service. The Situation Analysis and Gap Analysis have produced a clear picture of the problems of the external environment for water supply in the Study Area

(2) Identification of beneficiaries and clients

Broad beneficiaries and clients have been identified through the White Paper on Water Supply - the poor and the unserved - but there has not been a detailed analysis to segment and identify beneficiaries into homogenous groups. However, there has been, through the Gap Analysis, an effort to prevent DWAF and other service providers from falling

into the trap of implicitly believing that all beneficiaries are alike and require the same service. Frequent mention has been made of the rejection by communities of what they see as a basic standard of service for all, without recognition of the requirements of the local people. The issue of local requirements has also come through in other Gaps - the difference between rural and urban areas and the need to adapt programmes to local conditions.

(3) Demand for, and supply of, Service

The demand for water, and the supply of it, did not emerge as a major Gap in the Gap Analysis. In the case of water supply demand is completely a function of the cost to the client, so possibly the fact that Cost Recovery is the dominant gap indicates an awareness of the demand and supply aspects of water supply. The Gap in respect of the value placed on safe water may also be seen in terms of demand and supply. In technical terms overall demand and supply in the Study Area has been calculated by the EVN/Consultburo project team, based on engineering data

(4) Key Actors influencing supply and demand

These actors are not just individuals but important political, economic, socio-cultural and technological groups. The key institutions in each of the three tiers have been identified, with Local Authorities and Water Boards having the most direct delivery roles. It is less clear who the key demand actors are - civic organisations and tribal authorities play a strong role at the community level in water supply, and will influence the acceptance or rejection of levels and types of water supply. DWAF itself, through its policy position on minimum service standards, will also be influencing the demand for water.

5.9.3 Programme Strategy

Strategy is the set of long term choices about the operating goals, policies and action plans of a development programme. Two important factors influence these choices - the objectives laid down by government , and the environment. The objectives usually indicate a programme's direction and provide the basis for choosing strategic alternatives. If the goals of a particular development programme do not fit the overall objectives of government, it will be difficult for the programme to obtain the resources necessary for it to be established. In the context of water supply, the objectives of government are clearly laid out in the White Paper. There is, however, a gap identified between this objective and the current goals being pursued by various organisations that reflect the legal framework in which they operate. It is also apparent that some of the organisations charged with implementing the White Paper are from the previous political milieu and this will likely lead to a deviation between the policy intention and the practical implementation.

5.9.4 Programme Structure

Since development programmes are normally initiated by ministries, the temptation is generally strong for the sponsor to prescribe for a programme its own structural form. What is more, a

functional structure often fits the needs of many development programmes. Yet, when complex programmes whose tasks require different structures are launched, this standardised approach causes serious problems of performance. The appropriateness of a development programme's structure can only be judged in relation to its environment and strategy.

In the context of water supply in the Study Area the structure is broadly functional although initiatives such as CWSS and the Organisational Development function show a movement away from a very rigid technical structure. The search for clarity on roles and responsibilities, the hierarchical division into tiers of delivery, and lack of communication and co-ordination between and within tiers are symptomatic of the desire for a hierarchical structure in order to rationalise and manage the present chaotic situation, but also indicate the co-ordination and communication problems that inevitably arise when this is attempted in a complex environment. The problems of the functional structure already becoming evident, plus the extent of the interconnections in the Gap Analysis and the nature of some of the roleplayers, suggests that there may need to be movement further away from a functional structure. Issues such as the tremendous need for capacity building, especially at the third tier, the variety of service demands placed upon the third tier, the importance of community participation in development and the need for job creation cannot be dealt with through a functional hierarchical approach. It may be that a slightly different form of structure will have to be considered to ensure meeting of the goals of water supply. Variations and alternatives include:

(1) Matrix Structure:

The matrix structure is a variation that is used where there is greater environmental uncertainty and the need for integration of services at a lower level;

(2) Network Structure:

A network structure is an approach which recognises that influence, rather than direct control, is the key to managing the activities of a large and diverse group of roleplayers.

5.9.5 Organisational Processes

Since governments initiate and control development programmes, governmental processes are regularly transferred to programmes. Uncritical adoption of these processes is a major problem of many programmes. Four key organisational processes that must be adapted for development programmes to succeed are:

- Participation
- Human Resource Development
- Monitoring and control
- Motivation

(1) Participation

The Gap Analysis shows that there is a heightened awareness of the importance of community involvement in development, and the need for more organisations to engage in community participation. However, countries such as South Africa have a civil service that is still steeped in traditional styles of administration and thus finds it difficult to decentralise and share decision-making with others. The presence of specialists and scientists who have joined the bureaucracy tend to strengthen this belief. There is also a fear that those delegated such authority will make mistakes, especially if they have little or no previous experience in decision-making.

These attitudes will change over time, but need to be positively influenced on a regular basis in order to do so. There is also value in use of NGOs that are present to help in the process of community communication and involvement, and the Situation Analysis showed that such NGOs do exist and can be beneficially used.

(2) Human Resource Development

Again, the Gap Analysis highlighted the importance of human resource development in water supply - the lack of capacity and need for institutional capacity building is a huge issue in this sector, and many of the problems that are not directly capacity related have their roots in the profound lack of managerial, professional and technical skills this sector experiences. Two components are examined in this section - staff selection and staff development - with both of these applicable to the full array of organisations involved in water supply in the Study Area.

(3) Staff Selection

Inflexible, and sometimes unsuitable, government selection processes are common in government development programmes. Programmes which need diverse skills need broad, open sources of recruitment. The practise of secondment runs counter to this and processes designed to attract staff only from government severely constrains the search for the right talent. Successful pilot projects are often a good source of recruitment, as the participants already have gained valuable experience.

(4) Staff Development

Even where staff have been carefully selected, they usually need to be trained and developed to fit the roles planned for them in a programme. Further, training is not a one shot affair but a continuing activity, as staff need to be upgraded and re-oriented to the changing requirements and challenges facing a programme. Top management's duty is to attach priority to staff development processes and to ensure that it operates effectively.

The above points make it clear that water sector participants should realise that capacity building, particularly of human resources, starts with the appropriate decisions being made by the officials within the structures themselves.

(5) Monitoring and control process

Development programmes such as water supply are not easily personally supervised by leadership of the ministry responsible for the sector, due to the complexity of the sector, the physical distances and the community focus of priority projects. In this situation monitoring fails when data requested is too voluminous and complex for those who have to supply it. It is therefore important to have a monitoring and control system that provides precise, clear and brief information. A well designed monitoring system has a direct bearing on the success of a development programme.

The issue of monitoring and control of water sector development was not identified in the Gap Analysis, except very indirectly in the Gap "Poor Understanding of the Role of the Third Tier in Development Planning", and the responsibility for this seemed unclear, although DWAF has the function of ensuring overall policy adherence. It may be that this is assumed to be in place. If this is not the case, it may be a serious shortcoming. as monitoring and control is vitally important in measuring results, setting future targets, modifying projects and maintaining public accountability and confidence.

(6) Motivation

Motivation is complex and affected by more than staff development and monitoring. Traditional government bureaucracies work on the basis of the power of authority to get things done; local government may work more on the basis of participation and autonomy; and the NGO sector in South Africa may work more on the basis of ideological commitment. There is thus a mix of incentives and factors that motivate participants in a development programme.

The nature of the programme is a major consideration of the type of incentives to participate in such programmes. Water Supply in the Study Area is a complex mix of social change, community involvement and infrastructure development. There is little value in using economic incentives to encourage participation in this situation, nor is the use of authority a good motivator. Water supply should rather be seen in the context of socio-economic development, where it is necessary to persuade and win people's hearts and minds to new ideas, practises and behaviour so that they can eventually perceive these to be in their own interest. The JICA Study itself is a way in which new ideas, practises and behaviours are being introduced into the water supply sector, and there are clearly demands for much more sharing of information - through provincial workshops, best practises reports, community discussions, DWAF Committee Forums and Provincial and Area Planning Forums.

5.9.6 Orchestration of Congruence

In a development programme, interrelationships among the environment, strategy, structure and processes are similar to the organic relationships among the inputs of a crop. Given that environment is the least influenceable of these inputs, congruence is achieved by adapting

strategy, structure and processes to the environment. The danger is when any of these factors are treated in isolation: the benefit of strategic management lies in its ability to see these inputs in their totality and to stimulate the search for congruent combinations.

Development programmes such as water supply can be divided into four categories. They can be divided according to "goal complexity" and "environmental complexity".

(1) Goal Complexity:

Some programmes have single goals, others have multiple goals. Where the focus is on a specific commodity such as rice or wheat, the goal is single. Where it is on industrial development, the goal is multiple;

(2) Environmental Complexity:

Irrespective of whether there are single or multiple goals, environmental complexity varies. Increased diversity, uncertainty and scope increases environmental complexity.

The two dimensions of environmental complexity and goal complexity give us four categories, as follows:

Goals / Environment	Single Economic Goal	Multiple Social Goal
Low Complexity	A * Single, standardised service * Functional structure * Limited role for participative process	B * Multiple social goals * Service-based matrix structure * Increasing use of participative process
High Complexity	C * Single, differentiated service * Matrix, network structure *Increasing use of participative process	D * Multiple, differentiated social services * Network structure * Maximum use of participative process

The points made under each of the four categories are illustrative, and many others may be considered.

5.9.7 Application to Water Supply in the Study Area

In terms of environmental complexity, the Study Area of this study would be said to be relatively complex - while it is geographically a small area, there is great diversity among beneficiaries and great diversity in levels of water supply. In terms of goal complexity, the Study Area of this study would also be said to be relatively complex - it is not only water that is being delivered to

consumers, but differing standards of service, infrastructure, as well as community involvement, institutional capacity building and economic development. It would therefore appear that water supply in the Study Area exists in category D, as a multiple, differentiated social service, requiring a decentralised network structure and maximum use of the participative process. This is typically found in large integrated rural development programmes where there is a strong need to adapt programmes to local conditions, and where planning and delivery necessitate collaboration among several organisations, with no agency fully controlling the entire range of tasks. Only if decisions and actions are taken participatively can the goals of the programme be achieved. These characteristics seem to fit those being found in water supply in the Study Area.

Table 5-1 Linkages among Identified Gaps

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL LINKS
1	Unclear roles and responsibilities	-	X	-	-	X	-	X	-	X	-	-	X	-	X	X	-	7
2	Lack of human, finan cial & tech capacity	-	-	X	-	X	-	X	X	X	X	X	X	X	-	-	X	11
3	Inadequate levels of cost recovery	-	-	-	X	X	X	X	-	-	X	X	-	X	X	-	X	10
4	Expectations on service levels	-	-	-	-	X	X	-	-	-	X	X	-	X	-	-	X	7
5	Role of III tier in development planning	-	-	-	-	-	X	X	X	-	-	X	-	-	-	-	-	8
6	Community involvement	-	-	-	-	-	-	X	X	-	-	-	-	X	X	-	X	8
7	Lack of communic ation & co-ordination	-	-	-	-	-	-	-	-	X	-	-	-	X	-	X	-	8
8	Integrated & co-ord service provision	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
9	Lack of handover guidelines	-	-	-	-	-	-	-	-	-	-	X	X	-	X	X	-	7
10	Unauthorised connections	-	-	-	-	-	-	-	-	-	-	X	-	X	-	-	X	6
11	Insufficient capital resources	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	7
12	Understaffing & overstaffing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	3
13	Differing value placed on safe water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	8
14	Experience of WB in retail sector	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
15	Gap between policy and legislation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
16	Diversity of local situation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8

Table 5-2 Ranking of Identified Gaps by Linkages

	GAPS	16	11	13	7	5	14	15	6	8	10	12	9	2	3	4	1	TOTAL LINKS
2	Lack of human, finan cial & tech capacity																	10
3	Inadequate levels of cost recovery																	9
1	Unclear roles and responsibilities																	7
4	Expectations on service levels																	6
6	Community involvement																	5
9	Lack of handover guidelines																	5
5	Role of III tier in development planning																	4
7	Lack of communic ation & co-ordination																	3
10	Unauthorised connections																	3
13	Differing value placed on safe water																	2
11	Insufficient capital resources																	1
12	Understaffing & Overstaffing																	1
16	Diversity of local situation																	0
14	Experience of WB in retail sector																	0
15	Gap between policy and legislation																	0
8	Integrated & co-ord service provision																	0
	TOTAL LINKS	8	6	6	6	4	4	4	3	3	3	3	2	1	1	1	0	110/2

Figure 5-1 Gap Relation under Strong Linkage

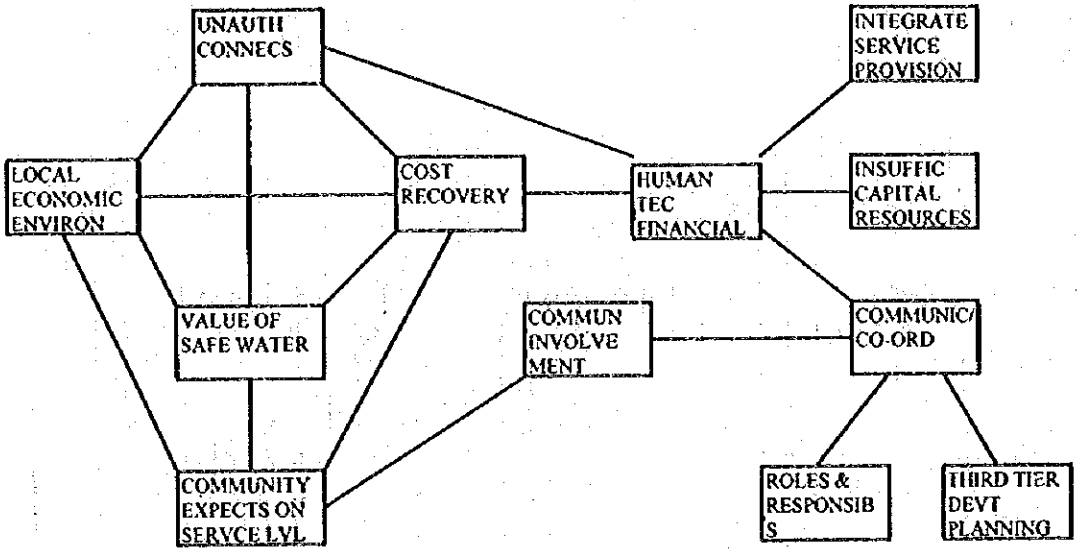


Figure 5-2 Gap Relation under Strong and Middling Strength

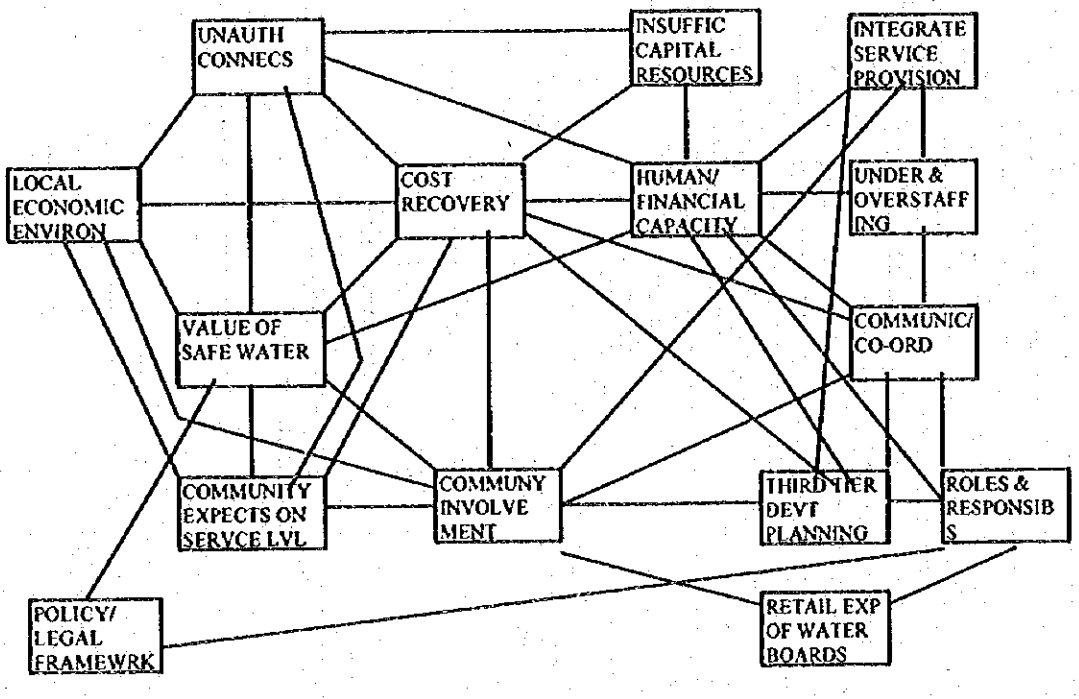


Figure 5-3 Grouping and Linkages of Identified Gaps

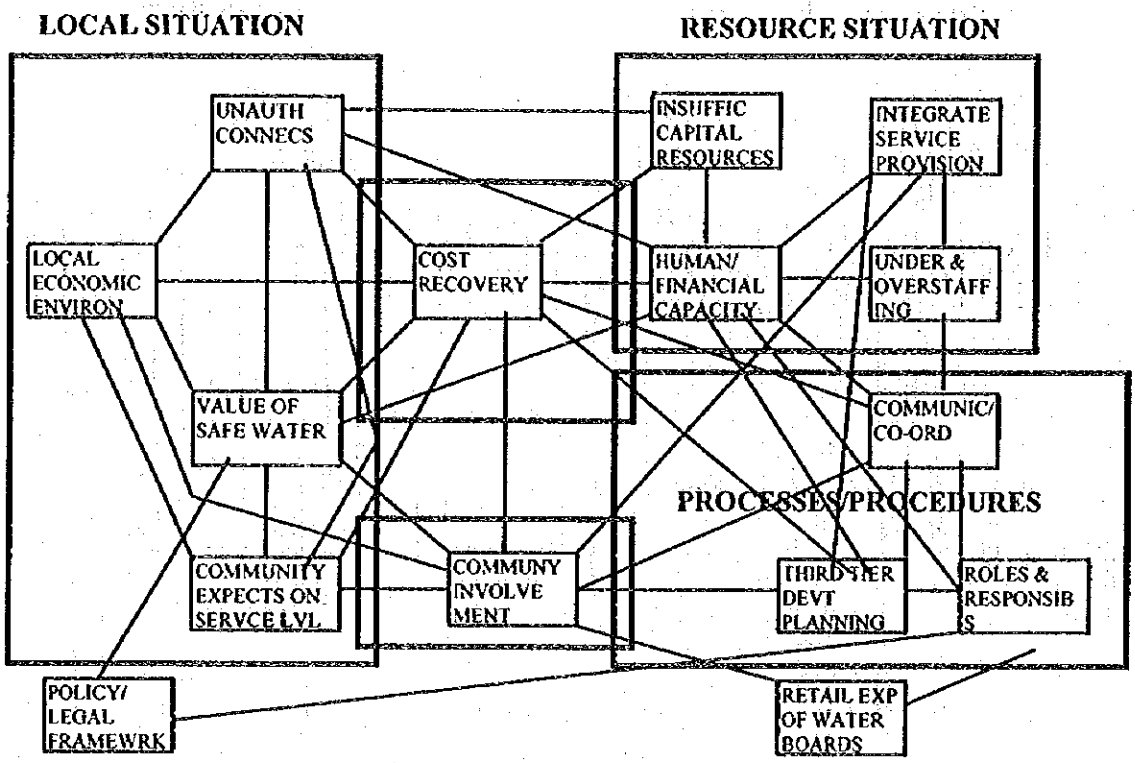
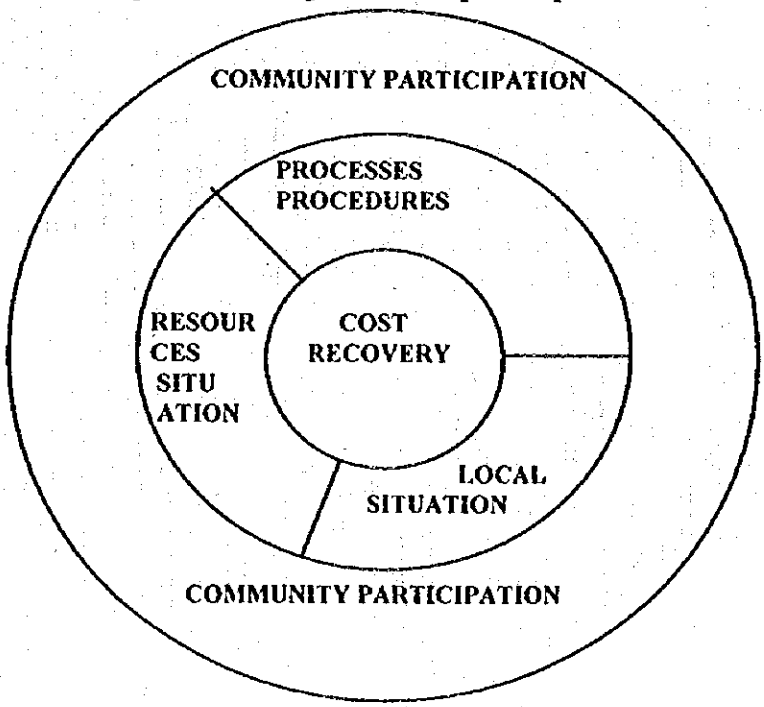


Figure 5-4 Simplified Linkages of Grouped Gaps



CHAPTER 6 CONCLUSION FOR POLICY AND STRATEGY

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6.1 Introduction

The Gap Analysis has used the information gathered in the Situation Analysis (Stage 1 of Phase 1 of the JICA Study) to identify all significant Gap areas in respective of water supply in the Study Area. This has been achieved through elaborating on the development challenges and needs in he Study Area and comparing these to the current situation. These Gaps have been progressively refined and workshopped so as to produce a final and agreed list of Gaps, all fully defined and analysed as to the implications of these Gaps, as well as the opportunities and recommendations arising. Methodologies have been used to link and prioritise these Gaps, providing a platform for the development of policy and strategy to implement these recommendations.

The purpose of this report has been to present the Gaps, their priorities and interlinkages. While recommendations have been gathered for the combating of these Gaps, these have not been assembled into a coherent set of policy and strategy recommendations, as this was not within the scope of this project. The purpose of this report has been to present the information and approaches, whereby the final part of Stage 2 (Policy and Strategy Formulation) of Phase 1 (Formulation of a Master Plan) of the JICA Study can be undertaken. The Gap Analysis is the input part of Stage 2: the output part in the form of policy and strategy formulation has to be completed in order that this stage of the project is accomplished.

6.2 Benefits and Limitations

This project has been characterised by the following:

(1) An extensive database upon which to draw the relevant information. The Situation Analysis has provided a great deal of current and precise information required for the Gap Analysis. Technical, engineering, policy, financial, institutional and community data has been directly accessible;

(2) Those individuals and organisations that were involved in the Situation Analysis have been involved in this project. There has thus been continuity in terms of knowledge and experience of the people undertaking the Gap Analysis;

(3) A highly structured approach has been followed by the Study Team. This has ensured that the Situational Analysis data has been tested with a variety of stakeholders and thus its usability for the Gap Analysis confirmed; that the opportunity for input by all relevant stakeholders and role-players, within and externally to DWAF, has been given; that all dimensions of the Gap Analysis have been addressed - financial, technical, institutional - and no area has been excluded from examination; and that a complex and detailed piece of work has been completed to the required quality in a very short space of time;

(4) A highly participative approach has been used by the Study Team to ensure acceptance and support of the outcomes of the project:

(a) Two consultative workshops have taken place in Rustenburg with a variety of institutional roleplayers in attendance, including Local Authorities, Magalies Water, District Councils, Local Water Committees, Mvula Trust, DWAF and Provincial Government. Delegates have come not only from North West Province, but also Mpumalanga, Northern Province and Gauteng,

(b) Three Task Teams created to develop the Gaps consulted extensively with roleplayers to further refine the information and share initial results with them, Meetings have been conducted between the JICA Study Team (including the local consultants) and the Project Working Group Chairs to ensure that Gaps being identified and implications being developed have their full understanding and agreement,

(c) Meetings have taken place between the JICA Study Team and Magalies Water Board to ensure they fully understand the nature of the project, results coming out, implications being considered and views being expressed, and have full opportunity to make input to the project,

(d) Regular meetings and worksessions have taken place between the JICA Study Team and the local consultants.

It is felt that the project has been well managed and structured and there has been full participation and consultation. There are, however, some limitations that should be recognised, although they are not considered to detract materially from the final products:

(1) While the consultative approach has generally been successful it is realised that some roleplayers were not in attendance that were invited, as well as others not invited that could have provided valuable input. In terms of the former point, it is recognised that consultation is a process and that not everyone participates from inception. In some cases it is the results coming out and the general nature of activity that encourages some groups to participate. In the case of the latter point it is unfortunate but necessary that the invitees be the same ones for each workshop, that a lot of backtracking and explanations to new participants does not have to keep taking place, and that commitment is built up. It is a credit to the participants that they were willing to come to successive workshops, especially when the workshops were placed so closely together and also were rescheduled;

(2) The range of Gaps may be criticised as being highly variable. Some are descriptive, others analytic and process oriented. Some of the Gaps may be seen as higher level and strategic, whereas others are low level and quite specific. While this has ensured that the diversity of the views of stakeholders and roleplayers is fully reflected, the integration of these Gaps has had to be quite broadly made, with the danger that there may be undue generalisation.

6.3 Conclusions

A number of issues have come out of this Gap Analysis that will need to be addressed in the policy and strategy section. These are as follows:

6.3.1 Privatisation

It is clear from the Gaps identified that a critical area of need is to build capacity in the water sector. The requirements placed upon it, particularly given the complex interaction of geographical, administrative and technical considerations involved in water supply, are very onerous and there is at all levels a lack of organisational, financial and technical capacity to manage and direct water supply. The interlinkage diagrams presented in Section 6 also make it clear that outputs such as Cost Recovery cannot be solved in isolation from either Environmental factors or Organisational Capacity factors. Solving these two factors is the key to addressing cost recovery and it cannot be solved in isolation from them.

The private sector can play a very strong role in supporting and augmenting capacity in the water sector. Private involvement in billing and collection systems, administration, operations and management, fund raising and other management areas would have a very beneficial impact on water supply. This would also be in line with the view of Central Government, that the role of DWAF should be as Regulator, in a similar way to electricity and telecommunications. Criteria for the participation of the private sector in this way have been suggested by DWAF and are fully supported here, viz:

(1) Competitive bidding on contracts

(2) Transparency

(3) Coverage - no cherry picking of attractive areas

(4) Consumer protection

6.3.2 Capacity Augmentation

Practical steps to augment capacity were put forward at the workshops, a key one being the idea of a service co-operative that would pool resources. Alternatives may be a service network but the idea would be essentially the same. Issues and characteristics of such a service arrangement would be that it would:

(1) Be developed primarily from the capacity of existing operationally viable second and third tier institutions

(2) Be required to provide services at cost to all institutions in the Study Area

(3) Be able to achieve substantial economies of scale by providing an efficiently managed capacity pool

(4) Provide the option for any dissatisfied clients to transfer the service in-house or engage a private sector provider

(5) Have client institutions on the Board of Directors/Steering Committee or whatever oversight structure is desired

Practical implementation of such a serivce co-operative would likely draw on experience in the small business development sector, whereby small entrepreneurs that lack common areas of capacity share the use of an agency that provides such a service to them. This is primarily in the fields of financial management, as well as business planning. The following would be required:

(1) physical location - located centrally in the Study Area or where communications are best, maybe Rustenburg or Brits;

(2) Financed from - fees collected from those organisations that make use of its services, as well as Water Affairs budget;

(3) Services provided - financial management, budgeting, planning, institutional development;

(4) Utilisation arrangement - need to ensure appropriate utilisation by water supply organisations, preventing overuse by some and underuse by others; Also need to ensure that users do not donate unwanted and low skill staff but expect high quality services;

(5) Numbers - limited to a small team of 3 or 4;

(6) Start up - start up as a programme of support rather than develop detailed structure.

6.3.3 Service levels

The investigation of the Magalies Water Extended Supply Area supports findings in other parts of the country, that communities are not prepared to accept minimum level services (standpipes, 25 l/c/d, 200 m distant). There is an overwhelming rejection of stand pipes and the associated flat rate billing method by communities for a variety of practical, historic and social reasons. The problem is that any higher level system such as yard connections will be much more expensive and DWAF does not have the funds for this. DWAF supports a lesser service for more people, rather than a better service for a limited number. DWAF therefore will not fund or guarantee a loan for any new service higher than the minimum one described above.

The Gap Analysis highlighted this dilemma. The two workshops received a lot of comment on this matter, with a strong signal coming through that, although providing a yard connection level of service with a meter may not necessarily guarantee payment, there are really no other alternatives. Costs will definitely not be recovered through the minimum service level, and

problems such as unauthorised connections will increase. It may be also that a change of approach on this highly emotional matter may send out a positive signal. How this might be accomplished will have to be assessed by the policy and strategy exercise, but funding a yard connection service level on a prioritised basis (for example, prioritising communities on the basis of past cost recovery track record) may be a way forward. Clearly, some form of pilot project is required.

6.3.4 Future of Local Water Committees

Local Water Committees (LWCs) have been established by communities to manage the water supply at the local level. LWCs were envisaged in the White Paper, published in early 1994 before the Local Government elections in 1995, as developing into statutory bodies that could act as legal persons, enter into loans and own materials and plant. Being directly at the community level, LWCs have been seen as the most important point of contact for the water sector with communities and the White Paper has made it clear that these LWCs need to be supported, by Water Boards specifically.

The Local Government elections in 1995 and 1996 have now put in place legitimate local government and the question arising is the role of LWCs. The need of water supply at the local level is tremendous and there is strong support for statutory status. This will duplicate the role of elected local government, however, and DWAF is re-evaluating its position on LWCs. Meanwhile, there is a great deal of uncertainty among LWCs and other local structures. It is suggested that the strategy and policy exercise take a very good look at how to deal with this matter and, once such a view has been taken, that this is fully communicated down to the community level.

6.3.5 Role of DWAF

DWAF is currently undergoing a transformation exercise. The results of the Gap Analysis highlights the need for this. Presently, DWAF is trying to micro-manage water supply at the local and regional level, and is failing to macro-manage at the national strategic level. It is thus getting involved in local issues that could be better dealt with by District Councils, Local Authorities or Water Boards, and failing to deal sufficiently with broad strategic matters such as strategy formulation and policy evaluation.

6.3.6 Role of Water Boards

Water Boards have been asked to become involved in third tier functions by supporting LWCs and Local Authorities in building their capacity to manage water supply at the local level. The Gap Analysis reveals that Water Boards are having some difficulty undertaking this role, not due to a lack of commitment to the goals of the White Paper but rather to organisational and technical aspects. Essentially, Water Boards are business entities involved predominantly in wholesale water supply and with little experience in retailing this to individuals in communities. It appears DWAF is realising this difficulty and re-evaluating this requirement of Water Boards. It is unlikely this matter will be resolved in the short-term so the strategy and policy exercise will need to work out the best way to handle this issue.

6.3.7 Community Participation

There exists a fundamental tension between the need to, as soon as possible, put in place an efficient water supply service and implement new water projects, and the time-consuming process of consulting affected communities on their requirements of that service. Certainly, projects will not be effectively implemented without community involvement and worldwide development experience supports this fact. However, considerable promises have been made in the name of the Reconstruction and Development Programme yet actual delivery remains limited. Great frustration is developing, manifested through unauthorised connections, failure of the Masakhane campaign and increasing non-payment for services.

While specific solutions are not suggested here, it may be necessary to complement longer-term strategic recommendations with visible short-term projects that can enthuse people and present a dynamic profile. The example of this project may also be instructive - specific and structured stakeholder input, and maintaining the same consultative groups.

6.3.8 Database of Best Practises

There was great interest at the workshops in hearing about how other parts of South Africa had dealt with some of the problems facing the Study Area. This was particularly around pre-payment systems for water delivery and other technical areas, but also on broader matters such as provincial workshops to clarify roles and responsibilities and local area workshops to transfer information to communities. It was suggested that some sort of database on best practises would be useful and may shortcut the learning time occurring in coping with some of the challenges the water sector faces.

APPENDIX