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REPUBLIC OF YEMEN

**SECTOR WIDE APPROACH (SWAP) IN THE WATER SECTOR:
ASSESSMENT OF READINESS AND OPPORTUNITIES**



**Water, Environment, Social and Rural Development Department
Middle East and North Africa Region
The World Bank**

ABBREVIATIONS AND ACRONYMS

AFPPF	Agriculture and Fisheries Production Promotion Fund
APL	Adjustable Program Lending
A21A	Agenda 21 Program for Agriculture
BEDS	Basic Education Development Strategy
CAS	Country Assistance Strategy
CWRAS	Country Water Resources Assistance Strategy
ESW	Economic Sector Work
GARWSP	General Authority for Rural Water and Sanitation Projects
GOY	Government of Yemen
GSCP	Groundwater and Soil Conservation Project
IIP	Integrated Irrigation Improvement Project
JSDF	Japan Social Development Fund
MAI	Ministry of Agriculture and Irrigation
MCM	Million Cubic Meters
MDGs	Millennium Development Goals
MNA	Middle East North Africa Region
MTEF	Medium Term Expenditure Framework
MWE	Ministry of Water and Environment
NWRA	National Water Resources Authority
NWSA	National Water and Sanitation Authority
NWSSIP	National Water Sector Strategy Investment Program
OED	Operations Evaluation Department, World Bank
PAWS	Program Aid to the Water Sector
PRSC	Poverty Reduction Strategy Credit
PRSP	Poverty Reduction Strategy Paper
PWP	Public Works Project
RNE	Royal Netherlands Embassy in Yemen
RWSS	Rural Water Supply and Sanitation
SFD	Social Fund for Development
SWAp	Sector Wide Approach
UWSS	Urban Water Supply and Sanitation
YRL	Yemeni Riyals

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FOREWORD

This note reviews the potential for a sector wide approach (SWAP) in the economically vital and under-funded water sector in Yemen in alignment with the national water strategy and in harmonization with Yemen's development partners. It is one of the main outputs of a multi-year IDA Technical Assistance task to provide support to water strategy implementation. Other outputs include a Poverty and Social Impact Assessment (PSIA) of water reforms and support to the monitoring and evaluation of the Yemen National Water Sector Strategy and Investment Program (NWSSIP, 2004).

The idea of exploring the feasibility of a SWAp arose when stakeholders reached consensus on NWSSIP. It was understood that NWSSIP provided an excellent starting point to seek the improvements in development effectiveness that SWAp offers: already NWSSIP was an integrated and shared strategy and could serve as a platform for common and integrated approaches to sector investment. Therefore, the Government of Yemen (GOY) and donors agreed to explore SWAp possibilities and the Bank was asked to help assess the potential relevance and scope of a SWAp in the sector.

This document, which results from the assessment, reviews the status of a number of qualifying criteria for SWAps, as well as the progress of similar on-going projects in Yemen. In partnership with Ministry of Water and Environment, Ministry of Finance, Ministry of Planning and International Cooperation, and development partners, a rapid assessment of readiness was developed for each water sub-sector. Based on the assessment and the prospective applicability of different financing modalities by subsector, a timetable for decision making on SWAp is presented.

The report concludes with suggested follow-on actions by GOY, the Bank, and development partners.

SECTOR WIDE APPROACH (SWAp) IN THE WATER SECTOR: ASSESSMENT OF READINESS AND OPPORTUNITIES

EXECUTIVE SUMMARY

Background

In response to a growing crisis in water resources and services, the Government of Yemen and national and donor stakeholders agreed in 2004 on the National Water Sector Strategy and Investment Program (NWSSIP). As an integrated and shared strategy and a common platform for integrated approaches to sector investment, NWSSIP provides an excellent starting point to seek the improvements in development effectiveness that SWAp offers. Government considers that SWAp could increase absorptive capacity and improve performance, and form the basis for government and donor commitment to close the financing gap. Therefore, government and donors agreed to explore SWAp possibilities and the Bank was asked to help assess the potential relevance and scope of a SWAp in the sector.

SWAp is an open-ended process of bringing all government and donor financing in a sector within a single program framework. Based on country-led strategies, SWAp seeks to harmonize donor assistance through common arrangements for financing and technical assistance and to align donor aid on national institutions and on strengthened country implementation and fiduciary systems. The benefits from SWAp are stronger country ownership, a coordinated and open policy dialogue, and better resource allocation. SWAp also strengthens national capacity, systems and institutions, and facilitates scaling up of best practice and benefits to the entire sector. SWAp can be financed by a range of financing instruments: parallel financing coordinated within the SWAp framework; joint financing (both off budget “basket financing” and on-budget “pooled financing”); and budget support.

The Evaluation

As part of the analysis, the water sector as a whole and the subsectors of rural and urban water supply and sanitation, and irrigation were subjected to an evaluation of readiness based on five “qualifying criteria”: (1) a comprehensive sector policy and results assessment framework; (2) a country led partnership approach; (3) agreement of all partners to support the national investment program; (4) movement to align fiduciary and safeguard requirements; and (5) agreement to move towards common approaches to implementation and management.

The results indicate that at the level of the water sector, there is willingness and desire to move to SWAp. Many of the broad framework conditions are there, although preparation work is needed and there are some impediments to alignment that will need to be tackled. Amongst the subsectors, *rural water* should clearly be a priority because it is poised to move ahead with a restructuring that will repair its current fragmented state. Success in this sector would have very high impact because of the poverty effects and the tangible move towards achieving the MDG target. *Urban water* presents an easier challenge, although the benefits are likely to be lower. *Water resources management* is perhaps Yemen’s number one development challenge, and it is essential for MWE and NWRA to assess what benefits SWAp could bring to the program, and if the evaluation is positive, to proceed to SWAp. Finally, success in developing a SWAp approach to the *irrigation sector* would pay very high returns indeed, given that this sector uses 93% of Yemen’s water – but work on preparing a SWAp would need strong up front political commitment.

The table below summarizes the readiness of the sector for SWAp according to the five criteria used in the analysis.

SWAp in Yemen's Water Sector: Analysis of Readiness

	Comprehensive sector policy framework?	Country led partnership?	Agreement to support national program?	Fiduciary requirements aligned?	Implementation procedures aligned?
RWSS/WRM	Green	Amber	Amber	Amber	Amber
UWSS/WRM	Green	Amber	Green	Amber	Amber
Irrigation	Red	Red	Red	Red	Red

Green	Criterion fulfilled in the short term Requiring only agreement on exact program (parallel financing or joint -- either pooled or basket funding) and drafting a SWAp MOU
Amber	SWAp is feasible but requires preparation work Requires a joint preparation program and evaluation of the fiduciary requirements.
Red	Major obstacles to SWAp – movement to green only in the long term Situation not improving, no dialogue or common vision.

Based on the evaluation, four different financing modalities can be envisaged for the Yemen water sector for the immediate and medium term: (i) parallel/joint financing; (ii) basket funds for technical assistance; (iii) modified budget support (targeting a specific program with control of fiduciary aspects by donors); and (iv) budget support. The four modalities are further explained in the main report.

Conclusions and Recommendations

The potential benefits of moving into a SWAp framework ensures stronger country ownership, strengthen national capacity systems and institutions, and more effective implementation with no duplication and no wasted resources. The gains from further exploring the SWAp modalities include the convening power of coordinated/harmonized donor-GOY partnership to leverage key policy actions under the leadership of the Ministry of Water and Environment while at the same time **prioritizing** key NWSSIP interventions. Some immediate key policy interventions include: AFPPF reform, MAI/MWE coordination, comprehensive RWSS implementation, agreed guidelines for an urban sector strategy, implementation of FM and procurement reforms, NWSSIP program built into GOY MTEF, and incorporation of final amendments and By-Laws to water law.

Agreeing on SWAp requires a process of consolidated appraisal and negotiation leading to a Memorandum of Understanding (MOU). The MOU records agreement on the program and its financing and on procurement, financial management and disbursement systems. The movement into SWAp at the level of Yemen's water sector can begin right away: what is required is simply a joint government-donor decision for the sub-sector in question. A draft timetable for decision making on SWAp is shown in the Main Report.

1. INTRODUCTION AND BACKGROUND

Yemen's Water Crisis and its Impacts

1. The development of water resources and services has played an important part in driving Yemen's rapid growth over the last thirty years. However, by the early 1990s, problems began to emerge. Groundwater extraction reached 130% of recharge and the consequent drop in aquifer levels increased extraction costs and began to dry up springs. Urban water supply and sanitation coverage was not keeping pace with the growth of towns – in Sana'a only 36% of households were connected to the network, and quality and efficiency of service were extremely low: households in Ta'iz in 1995 were receiving water just once in every 40 days. In rural areas, government investments in water supply were concentrated in the environs of the capital, sanitation was neglected, and water related morbidity and mortality were the worst in the MNA region. Government agencies were centralized and implementation was so poor that donors sought out alternative delivery mechanisms such as Project Implementation Units (PIUs).

2. By the late 1990s, government and donors were spurred to change. NWRA was created to get a grip on the water resource, projects to improve irrigation efficiency were put in place, and a reform plan to set up autonomous urban water utilities was tested and then adopted, with donor projects in support. Later, in 2003, Government passed a definitive water law, reorganized the sector under a single Ministry of Water and Environment (MWE), and began an integrated approach to basin management.

Box 1. Water Use Indicators and Impacts

- Over 90% of all water available is used in agriculture
- Agriculture's contribution to GDP: 17%
- Agricultural labor force as percent of total labor force: 50%
- Irrigated areas increasing by 3% per year (Qat areas increasing by 9% per year)
- Progress towards MDGs for drinking water and sanitation very slow

3. There have been signs of improvement. Investments in irrigation have shown that water use efficiency can be considerably improved, and some water conservation has been achieved. A number of autonomous Local Corporations (LCs) have been created for urban water and a major urban water investment program is underway. The rural water institution, GARWSP, has been restructured, a rural water sub-sector strategy has been prepared, and demand responsive approaches are being implemented.

4. However, the picture today is still bleak. Estimates of the rate of annual groundwater overdraft are 150-170%: Yemen's stock of groundwater is rapidly dwindling, and rural areas and the economy are under threat. Yemen is falling far short of the needed progress towards the drinking water and sanitation MDGs, particularly in rural areas. Overall, water is a constraint to Yemen's development. Government's strategy paper – the *National Water Sector Strategy and Investment Program* (NWSSIP, 2004) - comments "Yemen is approaching a water crisis unless actions are taken to reduce unsustainable use of water resources". Donor agencies hold similar views on the need to prioritize this issue. The World Bank's strategy paper - the *Country Water Resources Assistance Strategy* (CWRAS, 2005) - comments in its first paragraph: "Yemen is entering a water crisis that ranks amongst the worst in the world. With the continued mining of

groundwater in all regions of Yemen, some areas will certainly lose their economic viability and even their drinking water supplies, causing displacement and resettlement.”

NWSSIP and SWAp

5. Faced with this critical situation, government brought all the Yemeni and donor stakeholders together to prepare NWSSIP, which has been adopted as the nation’s platform for an integrated approach to the water sector. A number of national and government/donor fora have been set up to coordinate implementation of NWSSIP. A monitoring and evaluation system has been designed which will report back to stakeholders on implementation, outputs and outcomes.

6. A key theme in NWSSIP is to improve investment effectiveness. MWE’s objective is to integrate all investment within the NWSSIP program, to encourage donors to progressively align support on national institutions and country systems, and to harmonize aid progressively through common arrangements for financing and technical assistance. Essentially, NWSSIP proposes a move to a “sector wide approach” or “SWAp” (see Box 2). MWE anticipates that such an approach would increase absorptive capacity, and improve donor confidence, so helping to close the NWSSIP financing gap. MWE also hopes that alignment and harmonisation would reduce what is seen as the relative inefficiency of current donor arrangements, particularly the intensive rhythm of missions and bilateral dialogue and the use of donor or project specific implementation set ups such as PIUs outside the permanent institutional structure.

Box 2. Definition of SWAp

Sector Wide Approaches (SWAp) are good ways to implement the international commitments of the Paris Declaration.¹ Essentially, SWAp is an approach by which government and external financiers agree to support a locally owned strategy and program for a specific sector or sub-sector in a comprehensive and coordinated manner, moving towards use of national fiduciary and safeguard systems rather than systems specific to external financiers. SWAp is an approach, i.e., a process of harmonization and alignment: it is not a financing instrument, and it does not imply particular financing sector modalities.

A “Paradigm Shift” From Project Approaches to SWAp

7. Central to government’s current interest in SWAp is dissatisfaction with past project approaches. In line with the global concerns about project approaches which were expressed at the 2005 High Level Forum on Aid Effectiveness in Paris, project approaches are seen in Yemen’s water sector as second best solutions, with limited development effectiveness because of their inherent fragmentation and duplication. At the policy and institutional level, project approaches are seen to lack shared strategy and prioritization, and to give inadequate attention to systemic issues and structured institutional development. At the implementation level, projects

¹ At the Paris High Level Forum on aid effectiveness held in February/March 2005, the international community endorsed a Declaration making a commitment to a series of measures to achieve greater aid effectiveness: (1) countries should take responsibility for setting *country led development strategies*; (2) aid should be *harmonized* through common arrangements for financing and technical assistance; (3) aid should be *aligned* on national development strategies and institutions and on strengthened country systems; (4) aid should be *managed by results*; and (5) there should be *mutual accountability*, for example, through joint assessments of donor actions.

are seen as reflecting a donor-driven agenda and resource allocation, and as creating parallel systems and “project empires” rather than building national capacity (evident in Yemen’s water sector). Transaction costs of project approaches are held to be unnecessarily high, and projects are seen as having weak long term impacts and sustainability. ²

8. The National Water Sector Strategy and Investment Plan (NWSSIP),³ intended to provide an integrated sector-wide basis for coordinating investment in the sector and improving development effectiveness, is seen by government and donors as the basis for moving to SWAp, including eventual budget support. Key sector donors have endorsed this approach in the NWSSIP Declaration of Support, signed in February 2005. SWAp is viewed as a way of improving development effectiveness in the water sector of Yemen by moving progressively away from project to program approaches within a coherent strategic framework. Essentially, the challenge is to effect the paradigm shift summarized in Table 1 below.

Table 1: The “Paradigm Shift” from Project Approach to SWAp

From project approach	...to SWAp
▪ Preparing “blue print” detailed designs	▪ Process approach, holistic view of sector program
▪ Detailed planning of inputs and outputs	▪ Agreement on overall program with annual planning
▪ Short term success of project	▪ Program performance outcomes
▪ Individual donor- government relations	▪ Country led inclusive partnerships
▪ Bilateral negotiation	▪ Coordination and collective dialogue
▪ Parallel implementation systems	▪ Increased use of country systems
▪ Building project management capacity	▪ Longer term capacity development

Source: Kanda (2005)

Benefits Expected from SWAp in Yemen

9. The benefits expected from SWAp in Yemen would stem from *harmonization* of donor assistance through common arrangements for financing and technical assistance, and from *alignment* of donor aid on national development strategies and institutions and on strengthened country systems. These benefits potentially include increased aid flows, heightened absorptive capacity, enhanced development impact and lower transaction costs. In particular, three levels can be identified:

² According to a recent report issued by the Bank’s Operations Evaluation Department (OED), sustainability was rated unsatisfactory in a number of projects in Yemen. However, implementation of current strategic thinking was regarded as a way forward in the sector: “a core need is to implement the new strategy. Beyond individual projects, broad and often difficult sector changes will be needed in policies, legislation, regulation, pricing, institutions and other measures. Carrying out the strategy is now the challenge.”

³ Prepared in 2004/5 and adopted by the Council of Ministers in May 2005.

- At the **strategic** level, this would be characterized by stronger country ownership and leadership, a coordinated and open policy dialogue, and a prioritized and **rational** resource allocation.
- At the **institutional** level, SWAp would help strengthen national capacity, systems, and institutions.
- At the **implementation** level, scaling up of best practice and benefits to the entire sector would be easier; there would be sector wide accountability with common fiduciary practices and environmental and social safeguards; and there would be a focus on results and reduced duplication in reporting and transactions. More effective implementation procedures would translate into improved outcomes and impacts, and this would build confidence and trigger increased donor funding and cause national funding to be based more on rational economic feasibility.

2. EXPERIENCE WITH SWAP IN YEMEN

10. With the rationale for SWAp developed in the previous Section, this Section presents the general financing modalities applicable in a SWAp and outlines Yemen’s experience with similar approaches. Subsequent Sections analyse the readiness of the water sector and its component subsectors for SWAp and present an action plan to achieve expected benefits.

11. **Financing Modalities.** SWAp is a program support approach that can be financed by a range of financing instruments. Finance can continue on a parallel basis through classic investment finance, coordinated within the SWAp framework. Joint financing can be used, in two forms: “basket financing” or “pooled financing”. With “basket financing”, financing agencies agree to finance a program jointly but outside the budget and with specific fiduciary and safeguard requirements. With “pooled financing” government and external funds are pooled within the government budget in support of part or all of the sector program, but there may still be specific fiduciary and safeguard requirements. Under budget support, external financiers support a time slice of the budget. Often a mix of these different instruments will be used in a sector at any one time, depending on the nature of programs and the ability of different partners to work with different modalities. The characteristics and application of these different financing modalities are illustrated below.

Table 2: SWAp Financing Modalities

SWAp	Characteristics	When to use	Advantages and challenges
Parallel financing in support of a program	Donor funds are administered separately. The funds support a specific part of the government’s program. Procurement, accounting and auditing follow specific agreements and not necessarily government procedures.	If government or donors are not willing to do joint financing.	Useful when joint financing is difficult or benefits outweigh costs. Can accommodate donors with constraints to joint financing; there is tendency to revert to project mode.
Joint financing: <i>basket financing</i>	Donors put their money into a common fund The fund is not necessarily within the budget but finances a specific part of government’s program. Procurement, accounting and auditing follow specific agreements and not necessarily government procedures.	If government and donors are willing to do joint financing but have more specific fiduciary and safeguard requirements.	More streamlined, faster disbursement. Single implementation and reporting mechanism. Loss of attribution helps focus on higher level outputs and outcomes. Needs upfront work on mechanisms. Risk of over complexity.
Joint financing: <i>pooled financing</i>	Government and donors place their money into a common fund. The fund is within the budget and finances a part of the government program. Procurement, accounting and auditing follow government systems; other requirements apply.	When investment finance is the key bottleneck and where there are net gains to be had from joint program financing.	As for basket financing, with added advantage that it supports government’s fiduciary system. Disadvantage is perception of increased risk.
Budget support	Donors support general or sectoral budgets. Funds are within government’s budget and government procurement, accounting and auditing systems.	When there is full confidence in national programs and in government fiduciary, safeguard procedures.	Can be used to support policy adjustment and to finance recurrent and investment costs. High entry standard required.

Source: Kanda (2005)

12. Experience with SWAp in Yemen so far is limited to several national programs which are financed on a parallel basis by different donors; one case of joint basket program financing; and one case of modified budget support (Table 3). Samples of these experiences are briefly analysed below.

Table 3: SWAp in Yemen To Date

SWAp Arrangement/ Financing Modality	Examples	Original Credit Amount
Parallel financing in support of a program	<ul style="list-style-type: none"> • Social Fund for Development (SFD) • Public Works Project (PWP) • Urban Water APL 	<ul style="list-style-type: none"> • US\$65 million over 5 years • US\$45 million over 5 years • US\$130 million over 5 years
Basket financing	<ul style="list-style-type: none"> • Basic Education Development Project 	<ul style="list-style-type: none"> • US\$65 million over 5 years
Modified budget support	<ul style="list-style-type: none"> • Dutch budget support in the water sector 	<ul style="list-style-type: none"> • EURO 4 million

Social Fund for Development (SFD): a national program financed on a parallel basis

13. Responsible to a Board chaired by the Prime Minister, SFD is an autonomous public agency charged with implementing a national investment program for social infrastructure development. Its program approach and autonomous status have allowed it to develop its own fiduciary and safeguard systems, which are aligned with the requirements of IDA, its principal financier.

14. Except for OPEC Fund financing, SFD’s numerous donors all have parallel financing arrangements, each with its own agreement. However, SFD’s well developed management information system is able to meet the requirements of each donor for accounting and reporting. SFD management is currently seeking approval of donors to standard bidding documents to be used in all local open bidding processes.

15. SFD has a five year program and annual programs approved by its Board. IDA financing follows this five year planning cycle, but other donor financing does not; many donors operate on 1-2 year cycles. There is no regular joint programming meeting. Transaction costs are higher than would be normal for a program approach because of the multiplicity of donor arrangements. The SFD experiences constant missions and conflicting messages from donors, some of whom seek to earmark funds quite narrowly. SFD would like donors to be coordinated better under IDA leadership.

16. SFD intervenes in very many sectors (17 in total) and operates professional coordination mechanisms with other agencies in these sectors. For example, SFD and the Public Works Project (PWP) are “on line all the time”, and they have a “clearing house” between them. SFD management are in general not in favour of moving to more formal joint sectoral planning and programming arrangements, especially where these give control of resources to some apex ministry or institution. “In general, sector wide coordination in Yemen is a worthwhile approach but it has risks - a top structure with control of resources is very dangerous.”

Lessons: parallel financing of a national program can be managed efficiently but only by a highly autonomous agency with its own well developed management systems. Even

SFD, one of Yemen's most efficient public structures, would gain efficiency and reduce costs from more *harmonized aid*.

There are risks as well as advantages from coordination with sectoral strategies in the Yemeni context and mechanisms for *alignment* need to be carefully designed with the objective of *development effectiveness* constantly in mind.

Public Works Project (PWP): a case of parallel financing for rural water supply and sanitation

17. The Public Works Project (PWP) was established in 1996 alongside SFD as part of the initiative by government and donors to establish a social safety net. Due to the very weak institutional capacity of line ministries and agencies, PWP was set up, like SFD, on a free-standing basis. However, unlike SFD, PWP is a "project", not a permanent institution. Its procedures are project specific. There is a Project Management Unit (PMU) in Sana'a and six regional (sub-area) offices. Implementation is through private contractors and consultants. Again like SFD, PWP is financed by a number of donors on a parallel basis: IDA provides \$45 million for PWP-3, 37% of the total cost of \$121.8 million.

18. PWP finances rural water and sanitation sub-projects. It participates in rural water sub-sectoral coordination meetings, and exchanges information on its rural water program with SFD and GARWSP to avoid overlap. PWP also signs agreements with GARWSP and UNICEF for work on different components of the rural water schemes it finances. In this sense, PWP is working in coordination with other sector agencies.

Lessons: arrangements for financing and technical assistance for PWP are harmonized to the extent that is possible under parallel financing. Efficiency gains could result from a joint financing approach.

PWP's alignment on national development strategy is only modest and, due to its status as a project, PWP is not contributing to strengthening national institutions and procedures.

The Basic Education Development Strategy (BEDS): joint basket financing of a national program

19. A partnership declaration was signed by government and eight donors in January 2004 formalizing support to the Basic Education Development Strategy (BEDS). One objective of BEDS is to develop a common program framework that will reduce the transaction costs of support. This will "allow the government to manage and direct resources to priority projects, and allow donors to jointly support programs rather than isolated projects".

20. Within BEDS, government has agreed with three donors - IDA, Netherlands and the UK - on joint pooled financing of the Basic Education Development Project (BEDP). BEDP objectives are to support the implementation of agreed priority programs and to lay the foundation for budget support. The three donors have combined resources through a pooled financing arrangement as a single contribution to the comprehensive project. Other donors may join. The pool will finance areas not covered by other projects. Direct budget support is envisaged only at

a later stage because “for the time being the public finance management, monitoring and audit system is not sufficiently robust”.

21. A program approach and management by results are adopted, with an initial program for the first eighteen months of BEDP specified. Progress against program objectives will be measured by process indicators and by output and outcome indicators. The results will be verified by M&E. After the initial period, a further rolling program will be agreed. Joint annual reviews (JAR) are to be held, during which progress against agreed work plan indicators will be considered, and annual work plans updated. A quarterly BEDS inter-ministerial committee including donors will review progress, and monthly meetings between partners will review operational technical matters.

22. On fiduciary aspects, IDA administers the funds of all three agencies, with Netherlands and UK funds being deposited in a multi donor trust fund (MDTF). A Project Administration Unit (PAU) within the ministry is responsible for procurement, accounting and disbursement. Procurement is according to IDA guidelines. Two special accounts have been set up, one for IDA, one for the MDTF. Disbursement is transaction-based, requiring submission of supporting documentation. BEDP provides support to strengthen government procurement and financial management capacity throughout the sector in preparation for budgetary support envisaged as a later phase of multi-donor support to the sector.

Lessons: BEDP has only recently been declared effective, and it is too early to evaluate the experience. The program design shows a high degree of *harmonization of aid* between government and the three principal donors around the national strategy and program. The degree of *alignment* is more moderate, with the use of a PAU and project-specific fiduciary systems. Strengthening of fiduciary capability is designed to improve alignment over time.

Program Aid to the Water Sector (PAWS) - RNE support to GARWSP and NWRA: modified budget support

23. In 2005, the Netherlands, motivated by the principles of harmonization and alignment and by the expected positive impact of SWAp on ownership, capacity building, sustainability and aid effectiveness, discussed with government a draft Memorandum of Understanding (MOU) for *Program Aid to the Water Sector of Yemen* (PAWS, see Box 3). The intention was to build on the draft to negotiate Netherlands budget support to the entire water sector of Euros 18 million for 2005-8. However, time constraints led government and the Netherlands instead to agree on a short term budget support program for 2005 for two agencies, GARWSP and NWRA. The support was based on an institutional analysis of the sector (June 2005) which concluded that alignment with national institutions and systems could be fast-tracked by channelling external finance through the national budget and relying on national fiduciary and safeguard systems, provided that: (i) there were additional fiduciary requirements and (ii) capacity building was incorporated in the program to strengthen national institutions. Organizational capacity assessments were conducted for the two agencies and in July 2005, initial agreements were signed with GARWSP and NWRA for Euros 2 million each, in two quarterly instalments in 2005. The financing is allocated to specific lines of the agency budgets. Extra fiduciary requirements are that Netherlands representatives sit in the tender committees, that there is an external financial audit in addition to the regular COCA audit, and that “value for money audits” be conducted.⁴

⁴ In this context, a Value for Money audit is understood to be equivalent to a procurement post review.

Box 3: Key features of the draft “PAWS MOU”

- ◇ Provision of aid linked to sector performance
- ◇ Aid to be based on national strategies, programs and budgets
- ◇ Multi-year donor commitments to finance specific parts of the sector investment and recurrent budget
- ◇ Government to make specific counterpart funding commitments
- ◇ Joint government/donor program appraisal and review
- ◇ Both government and donor funds to be deposited in joint special accounts

Source: Draft PAWS MOU

An initial assessment at the end of 2005 found NWRA’s progress to be only modest, and NWRA’s second quarterly instalment was not released. GARWSP progress was found to be good. The second instalment was released and further financing added to bring the total 2005 support to GARWSP to Euros 3.8 million. It was foreseen that MOU negotiations would restart at the beginning of 2006.

Lessons: No evaluation report is yet available.

Country Commitment to SWAp

24. Moves towards SWAp in the water sector.

NWSSIP is intended to provide an integrated sector-wide basis for coordinating investment in the sector and improving development effectiveness. It is viewed by both government and donors as the basis for moving to SWAp, including eventual budget support. Key sector donors endorsed this approach in the NWSSIP Declaration of Support, signed in February 2005. During 2005, government and the Netherlands worked on the PAWS initiative, and the German side has made an input on the draft MOU. For IDA, discussions on SWAp come as a continuation of the dialogue and technical assistance provided to GOY over the past two years. Already in CWRAS, IDA had endorsed government’s request for SWAp in the water sector, and proposed technical support to help prepare for implementation. In July 2005, meetings were held at MOF, MOPIC and MWE to discuss the scope for a SWAp study. The proposed study,

Box 4. Why SWAP?

- The existence of SWAp enables clarity on NWSSIP reform agenda and a forum for dialogue
- Enables a better understanding of sub sector financing
- Improved coordination between GOY ministries and agencies – MWE leadership role in SWAp
- Identify/define role of different partners based on comparative advantage
- Captures institutional/cross cutting challenges
- Clear indicators to measure progress and mechanism for periodic monitoring - triggers
- Reduces transaction cost of implementing sector reforms
- Ensures ownership/participation of all stakeholders.

designed to assess potential readiness within GOY, received full government endorsement to proceed and a GOY counterpart team was identified. MWE has also endorsed the need to study the impacts of proposed reforms in a PSIA (agreed with development partners – Germany and the Netherlands – a prerequisite to any SWAp in the sector). A SWAp mission visited Yemen in October 2005, and the present report is a preliminary input to the discussion process.

Progress Towards Alignment on National Fiduciary Systems at the Country Level

25. On procurement, the most recent IDA Country Procurement Assessment Report (December 2000) concluded that existing legislation in Yemen was not yet up to acceptable international standards. Subsequently, with assistance from IDA and the Netherlands, government has prepared standard national bidding documents (SBDs) and a comprehensive national procurement manual. A new procurement law that conforms to international best practice is also under consideration. Once the SBDs and manual are available, ministries and public agencies will be able to volunteer as “pilots” for early training and implementation, opening up scope for accelerating partial alignment on procurement.

26. On public financial management, the most recent Country Financial Accountability Assessment (CFAA) raised many issues on public financial management and audit. The state audit agency, COCA, is not yet considered by IDA to conduct audits in accordance with international (INTOSAI) standards of external audit. A PFM reform process is underway, including development of an accounting and financial management information system (AFMIS) and of an economic and functional budget classification (GFS 2001), and re-engineering of both internal control and external audit (see Box 5). Progress is encouraging, but for the time being, government and IDA have agreed that systems are “not sufficiently robust to consider budget support”. This does not exclude the possibility that intermediate steps towards alignment could be taken within a SWAp framework.

Box 5: Strategy for Modernizing Public Financial Management

In August 2005, the Cabinet approved a strategy for the modernization of public financial management (PFM) proposed by the Minister of Finance. This is a key component in the Government's policy to strengthen public finances, improve public service delivery in line with the objectives of the PRSP, and reduce corruption. The strategy is comprehensive, covering all areas of the budget cycle: budget preparation and execution, accounting, financial reporting and control, internal and external audit, and oversight by the Parliament and civil society. It was developed with the help of the World Bank, IMF, DFID, the Royal Netherlands Embassy and other donors. The donors will sign a Partnership Agreement with the Government to coordinate their technical support for implementing the strategy. The next step is for the Ministry of Finance to prepare a detailed action plan that will include requests for donor assistance. This plan should be completed and approved before December, 2005. The work on PFM modernization complements a range of activities being carried out by the Bank and other donors in the field of strengthening governance and public administration, e.g., the CSMP which includes PFM components such as the Accounting and Financial Management Information System (AFMIS) project and reengineering COCA (the external audit agency).

Source: World Bank, Yemen Economic Update, Fall 2005.

Water Sector Finance and Donor Assistance

27. Overall water sector expenditures are spread over a large number of actors. They represent a significant share of GDP (3.5%) and of public expenditures (10%). One quarter of the national investment budget is spent on water (see Box 6). There are significant donor investments in the sector which are not captured in the government investment budget for water, including those through SFD and PWP discussed above. In addition, public financing of recurrent expenditures goes beyond the direct MWE-related agencies (NWSA, NWRA, EPA) to partial coverage of utility deficits and other hidden/opportunity costs, much of which is not clearly accounted for. Government's funding share in donor-financed projects has so far mostly been met without problems. Figure 1 shows the distribution of spending by subsector, illustrating the huge spending on urban water supply and sanitation in relation to other subsectors.

Box 6. Expenditure Figures (from 2004 budget)

- Water expenditures as % of GDP = US\$383 million /US\$11 billion = 3.5%
- Water expenditures as % of total government budget = US\$383/US\$4 billion = 9.6%
- Water Investment expenditures as % of total investment expenditures = US\$313/US\$1.3 billion = 24%
- Current expenditures in water as % of total current expenditures=US\$68 million/US\$2.7 billion= 2.5%

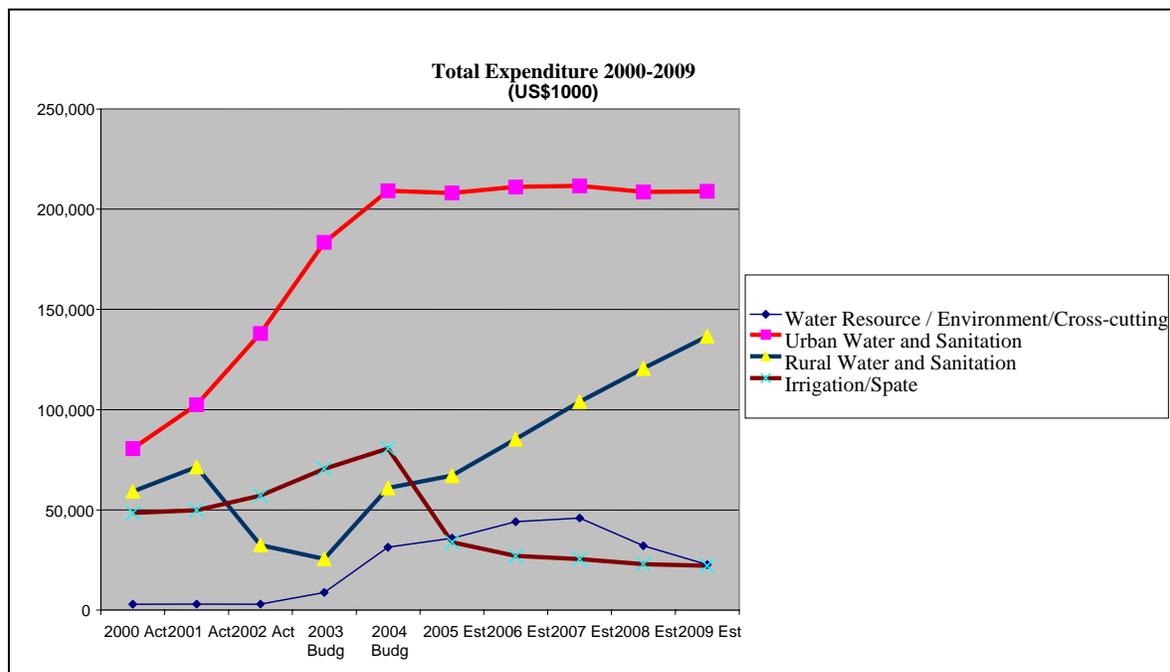


Figure 1: Actual and Planned Total Expenditure by Subsector (2000-2009) in US\$1000
(Source: World Bank, 2005a)

28. The NWSSIP investment program was the first overall and transparent approach to needs and commitments for the next 5-year period (2005-9). According to NWSSIP, some US\$ 310 million annual funds are needed, which in 2003 (calculation base) was already committed in part

by donors (36%) and GOY (28%), while a 36% financing gap remained. NWSSIP, which has been approved by Cabinet, clearly calls for an increase of the government’s budget allocations for the water sector. This engagement – effectively, to allocate an extra \$100 million of government and donor funds each year to the water sector – will need to become a firm commitment in the upcoming Third Five Year Plan (TFYP), and will also call for a response from donors. The MDG needs assessment takes the financial requirements projection further to the 2015 MDG horizon. All these numbers depend on improving absorptive capacity which has been poor to moderate in some sub-sectors, as clearly disclosed by World Bank’s PPR.

29. Yemen benefits from a limited amount of aid (US\$200 million per annum of which IDA is \$100 million). The group of bilateral donors includes Germany, Netherlands, United Kingdom and United States, and multilateral donors include the UN system and Arab Funds. While it is likely that some donors, such as DFID and USAID and possibly Arab Funds will increase their support over the next CAS period, the level of support will unlikely regain its level during the second half of the 1990.

30. Table 4 below identifies the major focus areas of donor support to the water sector. Currently, the World Bank has over US\$250 million in commitments to the water sector. German commitments (from KfW and GTZ) amount to 232 million Euros, while commitments from the Netherlands amount to 19 million Euros. **Annex 3** presents details of core donor commitments. Evidently, donors are important partners in the sector, and the harmonization and alignment of their support within NWSSIP is of paramount importance.⁵

Conclusion: increased levels of government and donor financing are needed to meet NWSSIP targets and the MDGs. Harmonized and aligned approaches within SWAp could help improve performance and absorptive capacity.

Table 4: Major Focus Areas of Support to the Water Sector in Yemen

Donor	Major Focus Areas
Germany (GTZ/KfW)	Institutional development, urban water supply, hydrogeology, water sector reform, poverty impacts.
Netherlands, DFID	Rural water supply, water resources management, institutional development, water sector reform.
Japan	Rural water supply, community water management
Arab Fund	Urban water and sanitation
UNDP, EU, others	Institutional development
World Bank	Urban, rural, water resources, irrigation, institutional development, water sector reform, poverty impacts.

⁵ World Bank Credit Envelope is US\$83 million per annum (indicative because of IDA-14 annual updating) with expected ranges from US\$80-100 million with improved ratings. The envelope for water is expected include continuation of water APLs, a PRSC in the medium term as part of a watershed Management Program and new Community-Based Programs for sustainable GW management, as well as strategic TA.

3. SWAP IN YEMEN'S WATER SECTOR

Analytical Framework - SWAp Features and “Qualifying Criteria”

31. SWAp is an open-ended process of progressive harmonisation and alignment. Although every country and sector will be different, global experience to date has produced the following five common features of the process, which can also be considered as “qualifying criteria”. This section reviews Yemen’s water sector and institutions against these criteria, following an analytical framework shown in Table 5.

- There should be a **comprehensive sector policy framework**: typically this would include a medium term (five year) sector strategy and a corresponding “performance assessment framework” (PAF, essentially an M&E system that can track policy implementation, expenditures, and outputs, outcomes and impacts).
- A **country led partnership approach** should be in existence: the long term objective is that government will take the lead in directing the program and coordinating the involvement of donors and other stakeholders. Initially, there should at least be evidence that the institutional structures and capacity for national leadership and joint consultations are in place. The partnership approach should be characterized by openness, consultation and sharing of information.
- All partners should agree to **support the national investment program**. On the government side this would require a medium term (typically five year) investment program and the corresponding government expenditure plans, so that other partners know government’s financial commitments to the program. This commitment should typically be part of the national “Medium Term Expenditure Framework” (MTEF) i.e., the government’s global five year expenditure and financing plan, so that the place of the sector in the overall fiscal and expenditure balance is clear. The investment program should identify prioritized activities and plans and develop program financing modalities. External financiers should make commitments to financing the national investment program.
- There should normally be movement to **align fiduciary and safeguard requirements**. SWAp counts on efficiency gains from movement towards greater reliance on national fiduciary and safeguard systems. Initially, there should at least be evidence that those systems are being strengthened so that at some stage external finance can be channelled increasingly through national systems. The long term objective is a single procurement, reporting and auditing system for the sector and agreed common approaches to social and environmental safeguards.
- There should be movement towards **common approaches to implementation and management**. Typically, there needs to be agreement in principle to move to uniform implementation structures and procedures. Partners should be synchronizing processes through joint appraisal, programming, review and M&E. There should be emphasis on using and strengthening government institutions, procedures and staff, and a move away from “project units”.

Table 5: SWAp in Yemen’s Water Sector: Analytical Framework

	Comprehensive sector policy framework?	Country led partnership?	Agreement to support national investment program?	Fiduciary and safeguard requirements aligned?	Implementation procedures aligned?
<i>Sector wide</i>					
<i>RWSS</i>					
<i>UWSS</i>					
<i>WRM</i>					
<i>Irrigation</i>					

The following Table summarizes which “qualifying criteria” would need to be satisfied for different financing modalities in Yemen’s water sector. For parallel and joint financing programs, progress must be shown on alignment of fiduciary requirements and implementation procedures. In the case of budget support, all five criteria must be in place.

Table 6: SWAp: Satisfying the Five Criteria for Different Financing Modalities

	Comprehensive sector policy framework?	Country led partnership?	Agreement on government program?	Fiduciary and safeguard requirements aligned?	Implementation procedures aligned?
Parallel financing	Yes	Yes	Yes	Progress	Progress
Joint financing	Yes	Yes	Yes	Progress	Progress
Budget support	Yes	Yes	Yes	Yes	Yes

Source: Team

How Ready is the Water Sector as a Whole for SWAp?

32. **Is there an agreed sector policy framework?** NWSSIP is a comprehensive strategy, action plan and investment program. It provides a road map for the integrated development of the sector over the next 5-10 years. There is provision for regular monitoring of implementation and outcomes and for periodic evaluation of impacts. The design of a sector wide M&E system has been agreed and implementation is starting. There is thus a comprehensive sector policy framework.

33. **Is there a country-led partnership approach?** Government prepared NWSSIP in collaboration with sector aid partners, and the external partners endorsed it in the Declaration of Support (see above). There is government leadership of sector wide coordination on an intermittent and informal basis. Government now proposes to formalize this through an agreed procedure, including twice yearly NWSSIP review meetings. The first such formal meeting – a “Joint Annual Review” (JAR) to examine NWSSIP progress and to prepare for the next budget round - is scheduled for April 2006. The government proposes to establish several joint committees early in 2006 to prepare for the JAR. There is also informal coordination amongst

the three principal aid partners (“core group”)⁶ in the water sector. Thus the basis is well laid for a country-led partnership approach.

34. **Is there agreement to support the national investment program?** Government and the principal donors have all expressed their willingness to move towards support of country led programs. IDA is already financing urban water and sanitation on a program basis, and the Netherlands has initiated a process of modified budget support (see above). The NWSSIP five year expenditure program and attached financing program provide an outline of sectoral programs and financing needs. Some of these programs are presented in sufficient detail to serve as a basis for program financing (e.g., for urban water and for water resources management), whilst others are only indicative (e.g., for rural water and for irrigation). However, there is no discussion in NWSSIP of detailed program financing modalities. In addition, at the macroeconomic level, there is no national “Medium Term Expenditure Framework” (MTEF), so that the place of the water sector in the overall fiscal and expenditure balance is not clear. A Five Year Plan is under preparation, but consultations with MOPIC suggest that this will be an indicative plan rather than a consolidated fiscal and economic framework. Thus many of the building blocks for agreement to support the national investment program are in place, but more preparation work at both the sectoral and macro level would be needed to prepare the investment program for SWAp at the sectoral level.

35. **Is there movement towards aligning fiduciary and safeguard requirements?** Progress towards alignment on national fiduciary and safeguard requirements is described in the previous section. There is certainly scope for intermediate steps towards alignment within a SWAp framework. For example, on procurement, MWE has indicated that once the SBDs and manual are available (see above), it would wish to be a “pilot ministry” for early training and implementation, and to use the SBDs for NCB in the water sector. Under a SWAp arrangement, water sector agencies could follow an “accession procedure” of: procurement capacity assessment, and an action plan to strengthen capacity, leading to “accreditation”.

36. **Movement to align implementation.** There has so far been no agreement in principle to align implementation structures and procedures in the water sector. In fact, much of the aid to the water sector is specifically not aligned on national institutions and systems. A number of major externally financed projects in the water sector are implemented by project specific structures under ministry supervision but outside the permanent ministry framework. This applies particularly to the IDA financed operations in urban and rural water and in irrigation, which are “enclave” operations, with their own personnel and conditions of service, and applying IDA procurement, financial management and audit standards. Alignment of the project specific structures has periodically been on the agenda of both government and donors, but no decision has been taken nor has a road map yet been developed. The issue of project specific structures is thus, in general, an impediment to aligning implementation. Clearly, a SWAp agreement would have to deal with this issue.

Conclusion

37. At the level of the water sector overall, there is willingness and desire to move to SWAp. Many of the broad framework conditions are there, although preparation work is needed and there are some impediments to alignment that will need to be tackled. At the national and sector level, the following issues would need attention as SWAp agreements are prepared at the subsector level:

⁶ Germany, Netherlands and the World Bank.

- Formalization and implementation of the sector-wide country led partnership approach
- Incorporation of the water sector investment and financing plan set out in NWSSIP into the Five Year Plan or other macroeconomic instrument that can demonstrate the commitment of government to programming and financing the proposed water sector investment program (the Medium Term Economic Framework)
- Progress on alignment of fiduciary requirements at the national level, and the adoption of specific intermediate steps towards alignment in water sector agencies
- Development of a road map for aligning implementation

38. The following sections examine in more detail the feasibility of moving to SWAp in each of the four water sub-sectors: rural water, urban water, water resources management, and irrigation and watershed management.

Is SWAp Feasible and Desirable at the Subsector Level?

Rural Water Supply and Sanitation

Analysis

39. **Is there a sub-sector policy framework?** A “National RWSS Policy-Strategy” has been agreed by all stakeholders after a two year participatory process and is under discussion in Cabinet. The implementation plan has, however, not yet been developed. There are many elements in NWSSIP, in RWSS-TA documents and elsewhere, but not yet the kind of official sub-sector development plan that would normally be part of SWAp. Monitoring and evaluation arrangements are not yet in place: the NWSSIP M&E will provide broad monitoring of the sub-sector commitments to NWSSIP, but the detailed RWSS M&E system for the subsector is still at the design stage. Further work is needed before there is a basis for “managing by results”.

- Much of the framework is there but it needs to be completed by an implementation plan and monitoring and evaluation system.

Is there a country-led partnership approach? GARWSP chairs a RWSS sub-sector coordination group which agencies concerned with RWSS attend. Guiding principles are being adopted progressively and recorded in minutes of meetings. To date, the main activities have been information exchange and the matching of work programs to avoid duplication.

- A country led partnership exists that would need to be strengthened and fully operationalized under SWAp.

40. **Is there agreement to support the national investment program?** Government and the principal donors have expressed their willingness to move towards support of a country led national investment program in rural water, and this was an objective in preparing the Policy-Strategy. The Netherlands has already initiated a process of modified budget support for GARWSP.

41. At present, there is no medium term sub-sector development plan including an investment and financing plan for rural water that could form the basis of an agreement on program financing between potential partners. The program in NWSSIP is purely indicative and

based on a simple calculation of the financing needed to reach a certain percentage of the MDG target.

42. One (phased) approach suggested is to start with an annual joint plan that brings together the budgets, financing plans and implementation proposals of all sub-sector participants into a consolidated framework: the monitoring and evaluation of this annual joint plan would then give the information needed to assess the absorptive capacity of sub-sector institutions and provide the building blocks for constructing a subsequent medium term plan.

- Work on the investment plan is a prerequisite to any agreement to move to program financing under SWAp. The investment plan would need to be part of the subsector implementation plan mentioned above.

43. **Is there movement towards aligning fiduciary requirements?** With the exception of the modified budget support operation financed by the Netherlands at GARWSP, external financiers have applied their own fiduciary and safeguard requirements in RWSS. For example, in the case of IDA support for RWSS (through RWSSP, SFD and PWP), fiduciary and safeguard requirements are the standard IDA requirements for Yemen. However, as mentioned above, intermediate steps towards alignment supported by capacity building are nonetheless possible under SWAp: for example, RWSS institutions could certainly be pilot cases for early training and implementation of the SBDs for NCB, and under a SWAp arrangement, RWSS sector agencies could follow an “accession procedure” leading to “accreditation”. The experience of Dutch modified budget support to GARWSP in 2005 will be instructive in this regard (see Box 7). The pace of alignment and the nature of support to be provided would depend on assessments of each agency. For example, for GARWSP the published audit report for 2002 and a special 2005 review⁷ identify shortcomings on accounting and financial management at the agency level that could require quite extended support to correct. Full alignment on national institutions and procedures would have to await the resolution of some national level issues: for example, GARWSP is audited by COCA, and full alignment on national audit procedures would have to await the resolution of issues related to COCA’s competence and procedures.

- Progressive alignment supported by capacity building is both possible and desirable under a SWAp arrangement. The timetable and level of support need to be determined on an agency by agency basis. Full alignment on national fiduciary procedures would have to await the resolution of national level issues.

Box 7: Fiduciary alignment under Dutch budget support to GARWSP

Under the 2005 agreement for Dutch modified budget support, GARWSP is responsible for procurement and financial management using national procedures. There is on the job training. RNE applies three extra checks on the process: sitting on the tender committee, an additional independent financial audit of the RNE contribution, and “value for money” audits.

Source: RNE

⁷ 2005 review is contained in *GARWSP Finance and Accounting Department Review and Recommendations Report*, August 2005, prepared by Abdullah Sharba (GARWSP and WSP/RWSS-TA).

44. **Movement to align implementation.** At present the rural water supply sub-sector is characterized by numerous institutional and implementation approaches which are not at all aligned. The principal actors are: GARWSP; the IDA-financed RWSSP, SFD and PWP; and a number of NGOs and decentralized projects. The RWSS Policy-Strategy provides for: (i) core sector-wide functions for GARWSP; (ii) Governorate Rural Water Authorities (GRAs, one in each governorate) to take the lead role at a decentralized level in service development and facilitation; (iii) continuation of multiple implementation mechanisms with coordination of stakeholders and programs at national and governorate level; and (iv) a reform office to prepare and carry out a reform implementation plan. The process of reform that will build this structure has officially to await Cabinet approval of the Policy-Strategy, and then will need to be rolled out as part of a medium term sub-sector development plan. Aligned implementation within the medium term sub-sector development plan will require actions for reinforcing permanent institutions like GARWSP and the GRAs. It will also require a plan for phasing out project specific approaches, particularly the IDA-financed RWSSP, whilst capitalizing on their experience and institutional capacity.

- There is a general desire on the part of government and donors to improve implementation and to attract increased financing to a better organized sector, and this was one of the objectives of the Policy-Strategy process. At present, agreement on the structure and reform process is awaited from Cabinet. Assuming that this approval will be forthcoming, *the immediate challenge is to work out how to operationalize it – i.e., to coordinate common programming, budgeting and M&E, to define a medium term implementation plan for both reform and investment, and to work out agreement on specific provisions for joint appraisal and supervision. These measures would all comprise steps within a SWAp process.*
- *The objectives of alignment should be increases in delivery and development effectiveness, and reduction in transaction costs.* As the RWSS sub-sector moves towards restructuring, these basic objectives need to be kept in mind. For example, alignment should not necessarily mean fewer organizations – that would depend on whether organizations were capable of effective least cost development impact. Nor should alignment mean concentration or centralization of resource allocation decisions: provided that the rules of engagement are clear, the principle of subsidiarity should be applied, with decisions taken as close to the beneficiaries as possible.

The Benefits and Costs of SWAp in RWSS

45. There is no doubt that a SWAp approach could be beneficial in the RWSS sector. The subsector is presently characterized by fragmented approaches and ineffective implementation, and development impact and aid effectiveness need improvement. SWAp would lead progressively to harmonized and aligned approaches and, after initial costs in setting up the approach, SWAp would increase aid effectiveness and bring a substantial reduction in the transaction costs to government and partners in dealing with aid to the sector. More effective implementation procedures would translate into improved outcomes and impacts for the rural population, and this would build confidence and trigger increased donor funding and cause national funding to be based more on rational economic feasibility.

46. Despite these promising signs, it is evident that intensive work would be needed to push the Policy-Strategy to conclusions and to prepare an implementation plan and investment program. Given the sometimes widely divergent opinions of partners about sector organization,

financial flows or delivery modes, agreement to embark on SWAp would be the best way to bring partners together.

47. Initially, aid partners will require extra fiduciary and safeguard procedures, and may earmark or ring fence certain allocations. Some aid partners may prefer to remain outside SWAp, or to parallel finance within SWAp. However, these problems are quite usual in SWAp, and can be expected to diminish with success.

48. Once SWAp is agreed, intensive joint work on preparation, appraisal, supervision, and monitoring will initially require concentrated management time, but this cost should diminish rapidly once the program approach is fully operational.

Conclusions, Recommendations and Next Steps on RWSS

49. The pre-conditions for SWAp are either in existence or could be prepared within a relatively short period (twelve to eighteen months). There is willingness amongst partners to proceed and the time is right, as there is convergence on the new Policy-Strategy and the IDA-financed RWSSP, with its project specific structures and procedures, is drawing to a close. Preparation for joint program financing for RWSS could begin right away.

50. Steps in preparation of a SWAp **joint financing approach** for RWSS should include:

1. Preparation of a medium term (five year) sub-sector development plan, including:
 - an action plan to implement the reforms provided for in the RWSS Policy-Strategy, including plans for institutional development/technical assistance and re-entry plans for RWSSP.
 - a five year (2007-2011) expenditure program and resource envelope derived from policy and strategy;
 - a “results framework”, building on the NWSSIP M&E indicators and on the proposed RWSS M&E system.
2. Proposals for a joint financing mechanism, either pooled or basket funding
3. Strengthening and full operationalization of NWSSIP sector level coordination mechanisms
4. Proposals for joint government/donor appraisal, programming, budgeting, M&E, supervision etc, for a RWSS SWAp.
5. Operationalization of RWSS sub-sector level coordination and joint planning mechanisms at central and decentralized levels.
6. Preparation for fiduciary (procurement and financial management) and safeguard assessments and for capacity building pathways to accreditation. The feasibility of using the newly developed standard bidding documents for NCB should be checked.
7. Preparation and signature of a SWAp MOU based on points 1-6.

51. The timetable could begin with a joint government and donor mission in (February/March 2006) to: (i) review RWSSP and PAWS; (ii) check the feasibility of SWAp

joint financing of RWSS from 2007/2008; and (iii) agree on the preparation program, timetable and budget for the RWSS SWAp (see items 1-7 above).

Urban Water Supply and Sanitation

Analysis

52. **Is there a sub-sector policy framework?** NWSSIP has confirmed the policy principles for the urban water sub-sector which were established by the WSS Sector Reform Program (Cabinet resolution 237-1999) and endorsed by all stakeholders. NWSSIP contains a detailed medium term (five year) sub-sector development proposal for urban water, detailing the actions to implement NWSSIP and the Sector Reform Program. This proposal has already been approved in the sense that the Council of Ministers has approved NWSSIP, but it would need to be confirmed by the official Third Five Year Plan. The designs of both a sector wide M&E system and of an urban water sub-sector M&E system (PIIS) have been agreed and implementation is starting. The indicators for urban water provide adequate opportunity for setting benchmarks and for monitoring sub-sector results.

- There is a comprehensive policy and performance assessment framework adequate to underwrite SWAp.

53. **Is there a country-led partnership approach?** At present there is no coordination structure specific to urban water and there is no joint planning approach other than the NWSSIP exercise. There is a proposal to establish a UWSS sub-sector coordination group for information exchange and terms of reference for this are being prepared.

- A country-led partnership is currently being formalized.

54. **Is there agreement to support the national investment program?** Government and the principal donors have effectively been supporting a country led national investment program in urban water since the sector reform of the 1990s. Government and donors have also agreed to align their support on NWSSIP which contains a detailed a five year expenditure program and financing plan for urban water, although this needs to be updated as a rolling program.

- There is already agreement to support the national investment program

55. **Is there movement towards aligning fiduciary and safeguard requirements?** At present, fiduciary and safeguard requirements applied to externally financed projects are those of the financing agency. For example, the IDA-financed APL program follows IDA guidelines. However, as for RWSS, progressive alignment, including piloting, supported by capacity building leading to “accreditation” is both possible and desirable under a SWAp arrangement.⁸

- Progressive alignment supported by capacity building is both possible and desirable under a SWAp arrangement. The timetable and level of support need to be determined

⁸ One specific issue will be on audits. NWSA is audited by COCA, and the general reservations and provisions applicable to COCA apply to this case. According to the law, the LCs are to be audited by private auditors appointed by their Boards (subject to COCA no objection), and most are in fact audited by local audit firms. However, COCA has insisted on conducting some of the LC audits itself, an issue that needs to be clarified.

on an agency by agency basis. Full alignment on national fiduciary procedures would have to await the resolution of national level issues.

56. **Is there movement to align implementation?** Responsibilities within the UWSS sector are defined by the reform program: the creation of decentralized Local Corporations and the support role of NWSA. A forthcoming study will define sub-sector roles more clearly, including the scope and location of the role of regulator.

57. At present there are two implementation models for externally financed investment in UWSS. Under the KfW model, the financing agency signs agreements directly with the LCs or with NWSA as the case may be, and implementation support may be provided by consultants hired directly by the executing agency: this model has the advantage of working directly with the national agencies without any “project implementation unit”, and the disadvantage of involving the financing agency in multiple direct project contracts. KfW is currently designing a “demand driven program approach” for provincial towns outside the four major cities. Under this, criteria are to be set for access to an investment fund, and the LCs and municipalities would compete to win financing. KfW envisages that after a pilot phase financed by KfW there could be scope for joint financing of the fund on a program basis.

58. Under the IDA model, government has agreed with IDA to follow a programmatic approach through a single PIU located in MWE headquarters. The PIU follows IDA procedures (see above) and has its own (not MWE) staff. Although located physically within MWE, its only structural link with the ministry is through its reporting relationship to the minister. Execution is in partnership between the PIU and the Local Corporations and branches. The implementation mechanism can be expanded to accommodate more cities (14 have been added during implementation) and more sources of financing.

59. A variant of the IDA model is provided by the financing arrangements for three other donors (AFESD, the Islamic Bank and OPEC Fund). Of these, AFESD is the biggest in money terms and can be taken as an example. AFESD financing for Sana’a Sewerage and for Seiyoun and Tarim Sewerage is managed through PIUs within the LCs, staffed by personnel seconded from the LC but with a PIU manager paid through the consulting engineers contract. It is understood that these three donors may be flexible over any moves to align future implementation arrangements.

60. There are thus two existing possibilities of alignment of implementation in urban water. The advantages and disadvantages of the KfW model will be revealed by the results of the pilot phase, expected to be available in about. Alternatively, the current IDA model could be expanded to include all aid to UWSS. Under that option, the PIU would need strengthening and there would need to be specific provisions for joint appraisal and supervision, agreement on common programming, budgeting and M&E, and a roadmap for alignment of fiduciary and safeguard requirements and of implementation. The latter approach is perhaps most likely to reduce transaction costs and increase confidence in the subsector, so attracting more financing, but with the disadvantages of perpetuating a PIU structure and involving a central MWE structure in what should be increasingly decentralized investment decisions and implementation.

- There are two programmatic financing models that could provide a basis for alignment of implementation under SWAp in urban water. The process for preparing APLII during FY08 could be an appropriate time and mechanism for winning agreement on the path to alignment and for preparing a comprehensive SWAp approach for urban water.

The Benefits and Costs of SWAp in UWSS

61. As for rural water, a SWAp arrangement for urban water could be prepared within a relatively short period. If a co-financed program through the existing APL implementation framework is selected as the choice – or one of the choices – the mechanism can be expanded to cover extra government and aid partner investment in UWSS at little extra cost, so reducing the high preparation costs of parallel financed projects. Whatever the option selected, there would be a reduction in the transaction costs to government and partners in dealing with aid to the sector (after initial “investment” in setting up SWAp) and an increase in both impact and investor confidence that should translate into increased donor and national funding.

62. As mentioned above, the advantages and disadvantages of the KfW model will be revealed by the results of the pilot phase. The advantages of the IDA model are efficient implementation, lower transaction costs, and a program approach that can be expanded; the disadvantages are the use of a PIU and the involvement of MWE in execution of investments, which is properly the role of the utilities. Once the decision on the program model to follow is taken, intensive joint work on preparation, appraisal, supervision, and monitoring will initially require concentrated management time, but this should diminish rapidly once the program approach is fully operational.

63. Initially, as for RWSS, some donors may require extra fiduciary and safeguard procedures, and may earmark or ring fence certain allocations. Some aid partners may prefer to remain outside SWAp, or to parallel finance within SWAp. However, these problems are quite usual in SWAp, and can be expected to diminish with success.

Conclusions, Recommendations and Next Steps on UWSS

64. Most conditions for SWAp could be fulfilled over the next twelve to eighteen months, either through the APL PIU mechanism or another program approach. This could be parallel financing, or joint (either pooled or basket funding). It would require:

- formalization of NWSSIP sector level coordination mechanisms
- confirmation of the revised urban water sector reform program to reflect the results of the forthcoming institutional study, and an updated medium term (five year) sub-sector development plan, including a five year expenditure program and resource envelope derived from policy and strategy, and a “results framework”, building on the NWSSIP M&E indicators and on the urban water PIIS).
- agreement on the program approach to be employed
- proposals for joint government/donor appraisal, programming, budgeting, M&E, supervision etc., which could build on existing arrangements.
- drafting and signing of a SWAP MOU based on the above points.

65. The timetable would be determined by the phasing of preparation of new external financing. If IDA’s APL is to be prepared in FY08, the preparation and appraisal process could provide the vehicle for decision taking and preparation of the SWAp approach.

Water Resources Management

Analysis

66. **Is there a sector policy framework?** The Water Law (2003) sets the legal and regulatory framework and establishes NWRA's statutory role, and NWRA's establishment decree spells out NWRA's mandate in detail. NWSSIP outlines NWRA's medium term (five year) plan (2005-9), but this needs to be updated and an implementation plan developed. NWSSIP M&E provide a framework for "managing by results".

- There is a sector policy and results assessment framework. A medium term implementation plan would be needed for SWAp.

67. **Is there a country-led partnership approach?** NWRA, assisted by the Netherlands, chairs an IWRM sub-sector coordination group for information exchange. Netherlands' PAWS approach integrates financing within NWRA's program but there is at present no mechanism for discussing or integrating other externally financed programs for water resources management, which tend still to be donor and project driven.

- A country led partnership approach could be developed, but it requires initiative from MWE and NWRA.

68. **Is there agreement to support the national investment program?** Government and the principal donors (UNDP, Netherlands, IDA) financed a single country led support program for NWRA from its creation in 1995. A coordination mechanism under MoPIC initially proved fairly effective, but came to an end when UNDP scaled down its support to NWRA.

69. Now Government and donors have agreed in principle to align their support to NWRA on NWSSIP which contains a five year expenditure program for NWRA and (with many gaps) a related financing plan. At present, Netherlands has taken over the lead from the donor side and is providing program financing for NWRA through a form of modified budget support. The Netherlands intends to consolidate its support in 2006 by signing a Contribution Agreement for 2006-8 to finance the remainder of the NWSSIP program for integrated water resource management. Other donors (KfW, GTZ, IDA) are financing specific services that NWRA is providing to investment projects.

- There has not yet been an initiative to bring support to NWRA into SWAp-type coherence around the NWSSIP program.

70. **Is there movement towards aligning fiduciary and safeguard requirements?** With the exception of the modified budget support operation financed by the Netherlands at NWRA, external financiers have applied their own fiduciary and safeguard requirements. In the case of IDA support for NWRA (through GSCP and SBWMP), the financing is administered by the project PIUs outside of NWRA, and NWRA is simply a beneficiary in kind. In the case of Dutch modified budget support to NWRA, the arrangement is the same as for the RWSS sector and GARWSP.

71. As for the rural and urban sub-sectors, progressive alignment, including piloting and supported by capacity building leading to "accreditation", is both possible and desirable under a SWAp arrangement. Support for NWRA's fiduciary functions is likely to be needed: the latest

available audit report (for 2003) identifies weaknesses in the performance of the internal control department.⁹

- Progressive alignment supported by capacity building for NWRA is both possible and desirable under a SWAp arrangement. Full alignment on fiduciary procedures would have to await the resolution of national level issues.

72. **Is there movement to align implementation?** NWRA is the sole mandated organization for WRM and all implementation is aligned through it. At present, only the Netherlands is practicing a form of program financing with NWRA: other financing agencies (KfW Sa'adah, IDA GSCP and SBWMP) are basically using NWRA as a contractor for services to projects.

- In principle, a renewed program approach and consolidation of all donor financing in a (NWRA managed) unified program for water resources management looks practicable, as the program is well defined, there is a single implementing agency, and the number of financiers is few.

The Benefits and Costs of SWAp in Water Resources Management

73. As water resources are essentially the prerogative of a single public institution, NWRA, the benefits of a SWAp approach would depend on whether they would improve NWRA's performance. The most palpable advantage of SWAp would be that NWRA would be empowered to implement its essential program. There should be a reduction in donor driven funding decisions and the continual impairment of NWRA's prerogatives that occurs at present and a consequent increase in NWRA confidence and performance. A SWAp approach should also help achieve full financing of NWRA's program (at present there is a substantial financing gap). As with other subsectors there would also be a reduction in the transaction costs to government and partners in dealing with aid to NWRA (after initial "investment" in setting up SWAp). In the longer run, if SWAp helped NWRA become effective, there would be an increase in donor and national funding

74. However, there is a cost to preparing and running a SWAp approach for NWRA which may be high relative to the small amount of financing involved. An alternative would be one or two donors simply financing NWRA's full cost as in the past. In any case, earmarked funding for special projects requiring NWRA input is likely to continue. These could be outside SWAp, or within SWAp but as parallel and ring-fenced financing.

Conclusions, Recommendations and Next Steps on Water Resources Management

75. Most conditions for SWAp could be fulfilled over the next twelve to eighteen months. Harmonization and alignment within a SWAp approach would bring benefits of full financing and reduction in unprogrammed demands. However, parallel and ring-fenced financing will certainly continue. Close monitoring of results will be needed.

76. Current Dutch support is designed to test the scope for joint pooled financing or subsector budget support, which the Netherlands considers should be possible within a SWAp by 2007. In

⁹ NWRA, like GARWSP and NWSA, is audited by COCA, and the general reservations and provisions applicable to COCA apply to this case also.

this vision, “pooled financing is preferable to basket financing, as its on-budget feature should drive sustainable capacity building and systems improvement in NWRA”.

77. Next steps would be:

- MWE and NWRA should initiate a dialogue on implementing a SWAp approach for water resources management, building on NWSSIP and the existing programmatic support from Netherlands.
- NWRA should update the NWSSIP medium term plan for water resources management, and develop an implementation plan and five year expenditure program.

Irrigation and Watershed Management

Analysis

78. **Is there a sector policy framework?** NWSSIP has established policy principles for the irrigation and watershed management sub-sectors, and these have been endorsed by MAI. In addition, a number of relevant policy and strategy documents have been adopted by MAI, including a reform program (Agenda 21 for Agriculture, A21A), and an irrigation policy (Decree No. 38-1999). However, neither the NWSSIP principles nor the MAI documents add up to a comprehensive approach to water for agriculture. Currently, there is little or no policy dialogue or joint programming between MAI and MWE, and key NWSSIP commitments on AFPPF and on dams have not been respected.

79. At the implementation level, a number of projects are carrying out an implicit reform agenda for agricultural water: investment in improved water use efficiency, participatory approaches through Water User Associations (WUAs), changes in the incentive structure to encourage efficient water use. However, these actions do not form part of a comprehensive policy framework adopted by government.

80. Although there are elements in NWSSIP, in MAI documents, in the FYP and elsewhere, there is no official medium term (five year) development plan for irrigation and watershed management.

- There are fragments of policy and programs for agricultural water, but not yet a comprehensive sector policy framework or medium term development plan.

81. **Is there a country-led partnership approach?** Government has adopted NWSSIP and sector aid partners have signed a declaration of support. However, the focus of this partnership has been on WRM and the sub-sectors of MWE’s direct competence, and scant linkage has been made with MAI and its activities. Two “agricultural” donors – IFAD and USAID – have not signed the NWSSIP Declaration.

82. There is no government leadership of coordination for irrigation and watershed management and linkages to WRM. More generally, MAI has not been active in NWSSIP coordination, and there is little or no informal coordination amongst the principal aid partners in irrigation and watershed management (IDA, IFAD, FAO, AFESD, USAID...).

83. NWRA chairs an IWRM sub-sector working group that should in principle include key water resource issues related to agriculture. However, to date representatives from MAI have not been very active. There is no joint MAI/MWE planning approach.

84. Practical partnerships have been forged at the project level with mixed success: MAI and MWE cooperated in the 1990s over the transfer of water resources monitoring from MAI to NWRA, together with the transfer of LWCP support; and NWRA and GDI are cooperating to some extent under the IDA-financed GSCP and SBWMP projects. However, results have been slow in coming and transaction costs have been high.

- There is only weak leadership from government and little sense of partnership either within agricultural water or between agricultural water and water resource management institutions.

85. **Is there agreement to support the national investment program?** The expenditure program for irrigation and watershed management in NWSSIP is partial and sketchy and could not be considered a medium term investment program. The related set of actions and indicators drawn from NWSSIP for the M&E system are equally sketchy.

86. Government and donors are pursuing a project by project approach to irrigation and watershed management, with no overall program vision and with aid generally administered by separate project units. The IDA-supported Irrigation Improvement Project is an APL with a programmatic approach, but is limited to modern spate irrigation schemes alone.

87. One key issue on the investment program is the AFPPF, an extra-budgetary fund where there are major questions of governance and effectiveness. Under NWSSIP, an increasing proportion of AFPPF resources was expected to be allocated to irrigation efficiency investments, but this has not yet happened.

- Investment planning for agricultural water is fragmentary, and key resource allocation issues are not being tackled (see Annex 5 for a summary of the dams program).

88. **Is there movement towards aligning fiduciary requirements?** At present, all external support to irrigation and watershed management is subject to the external financiers' own fiduciary and safeguard requirements, applied through PIUs.

- There is no current dialogue on alignment of fiduciary systems.

89. **Is there movement to align implementation?** At present the sub-sector is characterized by numerous institutional and implementation approaches which are not at all aligned. Nor is there at present a move to align implementation of MAI programs with NWSSIP or with MWE institutions and programs. The only cooperation between MAI and MWE institutions is at the project level (the Bank's Groundwater and Soil Conservation Project, GSCP, and the Sana'a Basin Water Management Project, SBWMP). NWSSIP commitments to align AFPPF operations more with water resource management imperatives have not been met.

- At present there is no move away from PMU type approaches, which are prevalent in the irrigation and watershed management sector due to past poor experience with implementation through the ministry.

The Benefits and Costs of SWAp in Irrigation and Watershed Management

90. Although the agricultural water subsector is clearly the most difficult to bring within a water resource management framework, this in fact strengthens the advantages of a SWAp approach because SWAp provides a framework for the systematic handling of the key WRM issues, which need to be resolved by actions within the competence of MAI, in concert with MWE. A joint SWAp program approach could create the right incentive framework for the two institutions to agree on the needed structural and institutional changes and on accompanying investments. The AFPPF and dams issues could- for example – be dealt with under a SWAp. In addition, agriculture sector investment is dominated by the “project approach”, and there would be a large potential efficiency gain if a program approach could be adopted. As for other subsections, success in a SWAp approach could lead to substantial increases in financing, particularly of water saving irrigation efficiency programs within basin approaches.

91. However, just as rewards of SWAp could be high in the agricultural water subsector, so are the risks and costs. Lack of common vision and the poor working relationship between MAI and MWE, and lack of progress on key joint NWSSIP commitments make the task of preparing for SWAp for agricultural water – or even of establishing its feasibility – expensive and risky. So few of the preconditions for successful SWAp exist (at least in the rapid assessment above) that preparation could be a long and costly business, even once the policy issues have been agreed and a common vision established. In addition, the institutional basis for SWAp is shaky: non-aligned “project approaches” have been pursued in MAI because of weak implementation capacity and questions on fiduciary and safeguard issues. Transition to a program approach would create risks.

92. Finally, some aid partners involved in agriculture have been outside the NWSSIP process and would need to be convinced that SWAp – and NWSSIP – will bring real improvements. However, these partners include agencies such as IFAD that are noted for their commitment to SWAp approaches.

Conclusions, Recommendations and Next Steps on Irrigation and Watershed Management

93. Lack of common vision and working relationship between MAI and MWE, and lack of progress on key joint NWSSIP commitments make agreement on a SWAp approach uphill work. At present, the situation is not improving.

94. In order to reverse this trend, donors working with both institutions (including IDA) could play a role in creating a more coordinated and integrated approach, and help by aligning their own operations more towards a programmatic approach. But most importantly, there is a need for active national agencies: MWE and MAI to work together to create a mutually beneficial agenda – a “gain not pain” agenda of reciprocal advantages. The two approaches – donor and ministry - could be fused: for example, collaboration on a joint SWAp program (financed either by harmonized parallel financing or by joint financing arrangements) for a basin plan building on SBWMP and including substantial irrigation and watershed management components could be the entry point to broader cooperation and to policy change on AFPPF, and the dams program.

95. However, although the agenda is critical, it should not be embarked on unless there are good prospects of success. The first step should be a joint consultation between the two ministries and the concerned donors. The planned Water Summit could play a role in this.

4. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

96. Based on the assessment above, this section summarizes what is possible and in what time frame. This is followed by a discussion of conclusions reached, and finally suggestions for an action plan for GOY, the Bank, and development partners in the sector.

Summary: Moving Ahead with the SWAp Agenda

97. The previous discussion has set out in detail the feasibility of moving to SWAp for the water sector and its various component sub-sectors. It is clear that there are significant advantages to moving to SWAp, but also costs and difficulties that vary by sub-sector. Table 7 summarizes the readiness of the sector for SWAp according to the five criteria used in the analysis.

Table 7: SWAp in Yemen’s Water Sector: Analysis of Readiness

	Comprehensive sector policy framework?	Country led partnership?	Agreement to support national investment program?	Fiduciary and safeguard requirements aligned?	Implementation procedures aligned?
Sector wide	Green	Amber	Amber	Amber	Amber
RWSS	Green	Amber	Amber	Amber	Amber
UWSS	Green	Amber	Green	Amber	Amber
WRM	Amber	Amber	Amber	Amber	Amber
Irrigation	Red	Red	Red	Red	Red

Green	Criterion fulfilled in the short term Requiring only agreement on exact program (parallel financing or joint -- either pooled or basket funding) and drafting a SWAp MOU
Amber	SWAp is feasible but requires preparation work Requires a joint preparation program and evaluation of the fiduciary requirements.
Red	Major obstacles to SWAp – movement to green only in the long term Situation not improving, no dialogue or common vision.

Conclusions

98. A number of conclusions can be reached from the assessment:

- First, moving to SWAp is likely to be costly in terms of sector management time (almost twice the cost and time of preparation and supervision), and therefore change should be undertaken after consideration and perhaps on a prioritized basis.
- Second, amongst the sub-sectors, rural water should clearly be a priority because it is poised to move ahead with a restructuring that will repair its current fragmented state. Absorptive capacity is a problem which SWAp could help to solve. Success in this sector would have very high impact because of the poverty effects and the tangible move towards achieving the MDG target.

- Third, urban water presents an easier challenge, although the benefits are likely to be lower.
- Fourth, water resources management is perhaps Yemen’s number one development challenge, and it is essential for MWE and NWRA to assess what benefits SWAp could bring to the program, and if the evaluation is positive, to proceed to SWAp.
- Finally, success in developing a SWAp approach to the irrigation sector would pay very high returns, given that this sector uses over 90% of Yemen’s water – but work on preparing a SWAp would need strong up front political commitment.

99. Learning from lessons of current similar SWAp experiences, and examining the conditions under which SWAp arrangements are possible, four different modalities can be envisaged for the Yemen water sector for the immediate and medium term: (i) parallel/joint financing; (ii) budget support; (iii) modified budget support (targeting a specific program with control of fiduciary aspects by donors); and (iv) basket funds for technical assistance. Table 8 summarizes the potentially applicable financing modalities for the sector.

Table 8: Summary of Applicable Financing Modalities ¹⁰

Financing Modality	Potential Sector/Subsector Application	Time Frame
SWAp-1: Parallel/Joint financing of programs	<ul style="list-style-type: none"> • Rural Water Supply and Sanitation • Urban Water Supply and Sanitation • Water Resources Management 	Ready now for discussion and decision. Preparation, appraisal and agreement of MOU could take place in 6-24 months time frame, depending on government and donor commitment.
SWAp-2: Basket Funds for Technical Assistance	<ul style="list-style-type: none"> • Water Resources Management (capacity building and implementation of reforms) 	As for SWAp-1
SWAp-3: Modified Budget Support:	<ul style="list-style-type: none"> • Urban Water Supply and Sanitation • Water Resources Management • Irrigation/watershed management 	Only in the medium term (two years +)
SWAp-4: Budget Support	<ul style="list-style-type: none"> • Rural Water Supply and Sanitation • Urban Water Supply and Sanitation • Water Resources Management 	Longer term. For the time being the public finance management, monitoring, and audit system is not sufficiently robust. Support to improve fiduciary capability nationwide and at the agency level can be provided in the meantime, and milestones set.

¹⁰ The financing modalities in the Table could include a SWAp in terms of not only subsectors, but also **regions or basin plans**. For example, a SWAp could be to jointly finance a basin plan (including watershed management aspects, policy implementation, urban and rural water supply and sanitation). Such options will need to be analyzed and developed by both GOY and donors in any preparation process and it would make sense only if recommended actions to better prepare for subsector SWAps are completed.

100. **Financing Implications** – How much MORE can be gained from SWAp? The World Bank Credit Envelope for FY06-08 is US\$83 million per annum (this is only indicative because of IDA-14 annual updating). The Bank CAS team is discussing with GOY ranges from US\$80-100 million with the expectation of improved ratings. The envelope for “water” is expected to include continuation of water APLs (Urban Water APL and a PRSC for water to include rural water supply and sanitation and irrigation improvements as part of watershed management programs and community-based programs for sustainable GW management. The water envelope will also include technical assistance programs to continue support to NWSSIP implementation.¹¹

101. **How much more can be gained from SWAp, given the financing constraints?** As explained previously, the benefits of moving into a SWAp framework ensures stronger country ownership, strengthen national capacity systems and institutions, and more effective implementation with no duplication and no wasted resources. The gains from SWAp 1–4 also includes the convening power of coordinated/harmonized donor-GOY partnership to leverage key policy actions under the leadership of the Ministry of Water and Environment, while at the same time **prioritizing** key NWSSIP interventions. Some immediate key policy interventions include: AFPPF reform, MAI/MWE coordination, comprehensive RWSS implementation, agreed guidelines for an urban sector strategy, implementation of FM and procurement reforms, NWSSIP program built into GOY MTEF, and incorporation of final amendments and BY-Laws to water law.

Recommended Actions

102. Agreeing on SWAp requires a process of consolidated appraisal and negotiation that will typically cover the five qualifying criteria. Government and financing agencies will thus have to agree on the policy framework, the partnership arrangements, the content and support mechanisms for the investment program, movement towards fiduciary and safeguard procedures, and progress towards common approaches to implementation and management. These agreements would typically be recorded in a Memorandum of Understanding between all parties which would specify agreement on procurement, financial management and disbursement systems (emphasizing national systems), and agreement on the framework for donor contributions (timing, share).

103. Fiduciary and safeguard procedures are likely to be the most problematic element. Typically, there would be a joint process of risk assessment and mitigation that would assess capability, design a program to strengthen capacity, and define risk mitigation measures. The

¹¹ Yemen is one of the most vulnerable countries to climate change (changes in precipitation patterns and increasing temperatures are likely to have severe impacts on Yemen’s economy and social fabric, on account of its high reliance on agriculture –a highly climate dependant sector- for both income and employment generation). With funding to be provided by international trust funds, piece of analytical work will be undertaken by IDA during FY07 to assist Yemen in assessing a) which social groups/ regions are most exposed to climate change impacts, b) what is their ability to access private and public mechanisms to cope with climate change impacts, and c) under which conditions is the resilience of these coping mechanisms likely to fail. Taken together, these elements would help design and prioritize policies and activities to adapt to climate change, thereby supplementing the strategy effort that the government is currently undertaking in the context of the National Plan of Action for Adaptation (NAPA). The work on adaptation would be complemented by an operation – to be considered for FY08 - which would leverage Carbon Finance and GEF resources to supplement IDA for mitigating environmental problems that have global externalities. It is expected that the main target for such an operation would be the wastewater and solid waste management sectors.

program would provide for joint monitoring of financial management and procurement and a consolidated audit acceptable to all parties. These procedures would cover the entire program, not just the parts financed externally.

104. The movement into SWAp at the subsector level can begin right away, as the Netherlands has demonstrated: what is required is simply a joint government-donor decision for the sub-sector in question and – for RWSS – ratification of the RWSS Policy/Strategy. At the same time, key actions are needed at the national and sectoral level to help prepare for future deepening of SWAp (for example, for progress from SWAp-1 to SWAp-4, or for inclusion of other sub-sectors in SWAp). These activities would also reassure donors of strengthened fiduciary arrangements in their bilateral and multilateral funding of programs and encourage donors initially reticent on SWAp to join the movement. These related activities can also begin immediately. They include:

- Development of an approved Medium Term Expenditure Framework for the sector – ideally this would be built up as part of the Third Five Year Plan currently under preparation
- Agreement on the monitoring indicators for each subsector;¹²
- Conduct of a PER study (jointly by GOY and donors);¹³
- Preparation of a joint statement from MWE and MAI on a coordinated vision for water and agriculture, ratified by the Council of Ministers;¹⁴
- Ratification of the Procurement Laws and Guidelines presently with the Council of Ministers;
- Evaluation of the BEDS program to ascertain lessons;
- Evaluation of the Netherlands' experience with budget support for NWRA and GARWSP.

105. A timetable for decision making on SWAp is shown in Table 9. The Table outlines the specific subsector actions required by different partners in the short and medium term to achieve the full benefits of an integrated SWAp in the sector.

¹² The M&E system developed for NWSSIP in FY05 is currently being operationalized through support from Germany, RNE, and the Bank.

¹³ A PER is Planned for FY07.

¹⁴ A joint SWAp program approach could create the right incentive framework for MWE and MAI to agree on the needed structural and institutional changes and on accompanying investments. The approach could be focused on a joint SWAp program (financed either by harmonized parallel financing or by joint financing arrangements) for a basin plan building on SBWMP and including substantial irrigation and watershed management components. This could be the entry point to broader cooperation and to policy change.

Table 9: Yemen SWAp Matrix

Sub-Sector	Actions	Time Frame	By Whom
<p>RWSS</p> <p>(To reach a joint financing approach: SWAp-1)</p>	<ol style="list-style-type: none"> 1. Preparation of a medium term (five year) sub-sector development plan, including: <ul style="list-style-type: none"> • an action plan to implement the reforms provided for in the RWSS Policy-Strategy, including plans for institutional development/technical assistance and re-entry plans for RWSSP. • a five year (2007-2011) expenditure program and resource envelope derived from policy and strategy; • a “results framework”, building on the NWSSIP M&E indicators and on the proposed RWSS M&E system. 2. Preparation of proposals for a joint financing mechanism, either pooled or basket funding. 3. Strengthening and full operationalization of NWSSIP sector level coordination mechanisms 4. Preparation of proposals for joint government/donor appraisal, programming, budgeting, M&E, supervision etc, for a RWSS SWAp. 5. Design RWSS sub-sector level coordination and joint planning mechanisms at central and decentralized levels. 6. Preparation for fiduciary (procurement and financial management) and safeguard assessments and for capacity building pathways to accreditation. 7. Preparation and signature of a SWAp MOU based on points 1-6. 	<p>Short to medium term for SWAp-1, 2, and 3</p> <p>and</p> <p>Long term for SWAp-4</p>	<p>MWE MOPIC MOF donors</p>
<p>UWSS</p> <p>To reach SWAp-1 (parallel, joint financing) and SWAp-3 (modified budget support)</p>	<ol style="list-style-type: none"> 1. Formalize NWSSIP sector level coordination mechanisms 2. Confirm the revised urban water sector reform program 3. Agree on the program approach to be employed 4. Prepare proposals for joint government/donor appraisal, programming, budgeting, M&E, supervision. 5. Draft and sign a SWAP MOU based on the above points. 	<p>Short Term For SWAp-1 and 2 and Medium Term for SWAP-3 and 4</p>	<p>MWE, MoPIC, MoF, donors</p>
<p>WRM</p>	<ol style="list-style-type: none"> 1. Initiate a dialogue on implementing a SWAp approach building on NWSSIP and the existing programmatic support from Netherlands. 2. Update the NWSSIP medium term plan for water resources management and develop an implementation plan and five year expenditure program. 	<p>Medium Term</p>	<p>MWE and NWRA NWRA</p>
<p>Irrigation/ Watershed Management</p>	<ol style="list-style-type: none"> 1. Joint consultation between the two ministries and the concerned donors. 2. Collaboration on a joint SWAp program (financed either by harmonized parallel financing or by joint financing arrangements) for a basin plan to include substantial irrigation and watershed management components 	<p>Medium to Long Term</p>	<p>MAI MWE Donors</p>

Economic Data and Development Finance

In 2003, Yemen's GNI (US\$ current) was 9.9 billion, while GNP (US\$ current) was 10.8 billion. Government expenditure has been oscillating between 30-35% of the GNP. GNP 2003 growth has been just ahead of population growth, thus freezing per capita GNP growth to almost zero (after a slump into negative territory in 2004, slight improvement is expected in 2005). Table 1 shows how Yemen's economic growth has been decelerating from 2001, a year after oil production started leveling off. The outlook for the current year (2005) looks better as more oil has been pumped out to take advantage of prevailing higher oil prices, masking the persistent weak growth in the non-oil sector. Over the PRSP period (2003-05), Yemen is likely to record negligible growth in per-capita incomes compared to the target of 2.5 percent by 2005. While growth in the non-oil sectors remained weak, the government is actively pursuing the mining of gas reserves with foreign investors.

Table A1.1: GDP Growth and Inflation, 2001-2005

	2001	2002	2003 (est)	2004 (est)	2005 (proj)
	2001	2002	2003	2004	2005
GDP Growth	4.6	3.9	3.1	2.5	3.7
Oil	1.3	0.4	-1.8	-7.0	1.2
Non-Oil	5.2	4.6	4.0	4.1	4.0
Core Inflation (CPI)	10.7	6.8	11.9	12.0	12.5
Memo Items					
Per-capita GDP growth	1.5	0.8	0.1	-0.6	0.6
Crude oil production (1,000 barrels/day)	434	433	425	395	400

Source: Staff Estimates based on World Bank and IMF sources.

Total debt approached 50% of GNP in 2003. Inflation ran consistently in the two digit range, expecting a major surge (one time inflation boost between 7-12%) after the recent economic reform measures. GOY budget ran in the 5% deficit range. Oil price windfall profits have lately narrowed the budget deficit to 2.5% and enabled stockpiling comfortable US\$6 billion foreign exchange reserves. However, due to dwindling oil reserves and very weak tax basis, the government's revenue basis is on a declining path and future growth has to come from the non-oil sector. Non-oil domestic resources available for development and investment (DRDI) in % of GDP have been, between 1990–2003, far below the average of other countries and have lately been dipping into negative territory. For 2005, the original budget of US\$4.36 billion (30% of GNP) was recently supplemented with a US\$2.35 billion budget, while the total GNP is estimated at US\$ 14.5 billion. The lion's share of the supplemental budget is absorbed by the still very high energy subsidies, which soared further after the world oil price surge.

Official Development Assistance (ODA) to Yemen in 2003 amounted to approximately US\$300 million. With ODA representing less than 2% of GDP, aid per capita has been close to US\$13 in current \$US. In conclusion, ODA has a rather modest share in Yemen's overall development efforts.

Movement Towards SWAP and Financing Modalities

The model below gives an indication of movement of financing modalities. As harmonization is enhanced, external financing may gradually move from an emphasis on project financing to budget support with an increased focus on technical assistance.

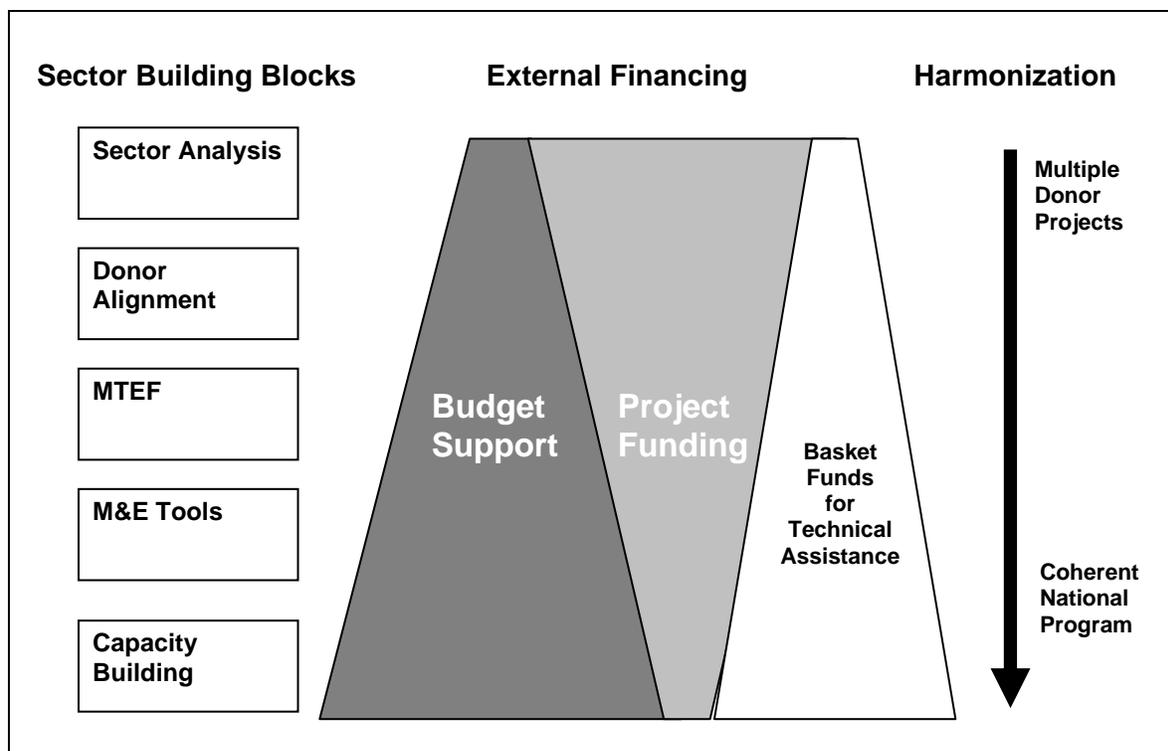


Figure A2.1: General model of moving towards budget support

(Source: World Bank 2005b)

SWAP stages

SWAp is unlikely to comprise a single once for all switch. It is likely to be an approach that progresses towards full national ownership and management of the program and its financing, developing and extending as capacity grows and confidence is gained. A typical itinerary might be as follows:

Stage 1: dispersed project support: identify subsectors for SWAp approach, agree on policy and strategy, set up coordination mechanisms, prepare steps to move to:

Stage 2: harmonization with parallel financing: harmonize government/donor approaches, begin to align interventions within national programs, prepare the institutional measures to move to:

Stage 3: joint (pooled or basket) financing: gain experience with harmonized and partly aligned programs, and prepare the institutional measures and fiduciary and safeguard systems to move to fully harmonized and aligned approaches with:

Stage 4: budget support: financing of agreed national programs using national fiduciary procedures and implementation mechanisms

This schematic itinerary is purely indicative. Partners might agree at the outset that conditions are right for joint financing – or even budget support. Typically, however, building institutions and, in particular, firming up the fiduciary building blocks takes time.

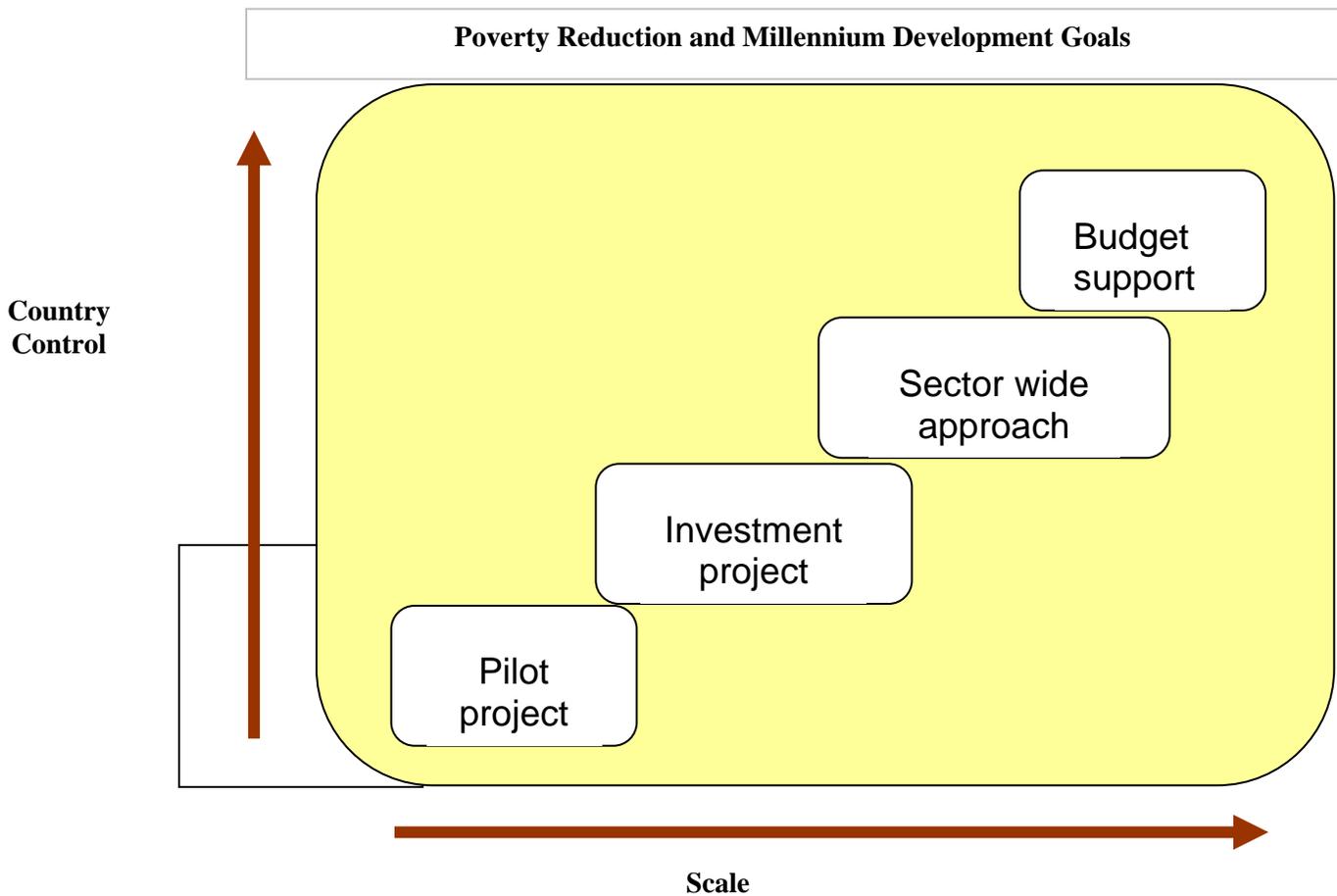


Figure A2.2: Schematic of SWAp Stages

(Source: World Bank 2005b)

Donor Projects and Programs

The Bank's portfolio currently includes 19 projects. The total credits amount is US\$816 million equivalent. As shown in the Figure below, out of the 19 projects, seven are in the human resources (38 % by value), six in agriculture and water (31%), five in infrastructure (27%), and one in public sector management (4%).

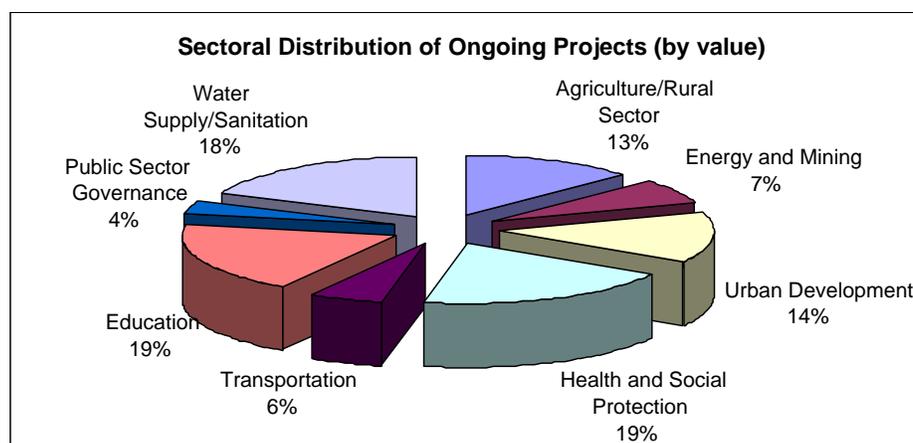


Figure A3.1: Sectoral Distribution of Ongoing Bank Projects

On going Bank Water Projects in Yemen

A. LENDING

1. Sana'a Basin Water Management Project – US\$30 million.

This 5-year APL project was signed August 26, 2003 and became effective January 2004. The Project is planned to assist Yemen in (i) increasing the efficiency of agricultural water use within the Sana'a Basin; and (ii) accelerating aquifer recharge to allow for a gradual shift to a less water-based rural economy. The objectives are designed to be attained through demand management and irrigation improvement; supply management and recharge improvement; institutional development/capacity building; information/public awareness; and environmental management.

2. Urban Water Supply Project – US\$ 130 million.

This project was approved in FY03, and will improve water supply and sanitation services in urban areas, to support the local corporations to become financially viable and to create opportunities for increase private sector participation. Project implementation is progressing satisfactorily and works contracts for Sana'a, Hodeidah, Taiz (soon Al Mukalla) have been signed. Though no bids were received for the Sana'a lease contract, agreement was reached recently with the Government to proceed with preparation of tenders for a management contract and to plan for broader promotion among major private operators.

3. Rural Water Supply and Sanitation Project – US\$20 million

This project was signed on Dec. 22, 2000 and became effective on October 23, 2001. The objective of the 5-year project is to expand sustainable rural water supply and sanitation (RWSS) service coverage to about 400,000 mostly poor rural dwellers in ten governorates. This would be

achieved by: (i) introducing to Yemen a worldwide proven demand-responsive, decentralized, community-managed, RWSS development approach; (ii) assisting the government in building and strengthening local RWSS capacity; and (iii) helping government to formulate the agreed, demand-responsive approach (DRA) principles in a coherent RWSS strategy, and to prepare a long-term (10-15 years) national RWSS investment program that could be supported by the Bank and other donors in coordination with the Social Fund for Development (SFD) and Public Works.

4. Irrigation Improvement Project – US\$21 million

This project was signed on Oct. 23, 2000 and became effective on January 18, 2001. The objective of this APL is to ensure sustainable water resources management in the seven main spate irrigation schemes in Yemen, contributing thereby to improved agriculture productivity and smallholder income in these areas. To achieve this, the schemes would be rehabilitated, intensive agriculture demonstration program implemented, and institutional changes introduced.

5. Groundwater and Soil Conservation - US\$40 million

The objective of this project is to assist GOY in promoting groundwater conservation in farming areas and increasing surface and groundwater availability through (i) improving irrigation water use efficiency; (ii) improving recharge and protection of watersheds; and (iii) supporting the groundwater management and institutions that will have the incentive and capacity to manage local water resources sustainably.

B. Bank Technical Assistance

1. Assistance on Water Strategy Implementation and PSIA – US\$110,000

Table A3.1: Summary of Current Bank Projects

The World Bank - Yemen Country Portfolio Performance Review - November 31, 2005

Credit	Project Name	Approval Date	Closure Date	Credit	Disbursed	Undisb.	Water Related	Available for Water
				Amount	Amount	Amount		
				\$mn	\$mn	\$mn		
3861	Third Social Fund for Development	26.02.2004	31.12.2008	60.00	14.28	45.72	15%	6.86
3450	Rural Water Supply and Sanitation	21.12.2000	30.06.2006	20.00	8.49	11.51	100%	11.51
3412	Irrigation Improvement	07.09.2000	30.06.2006	21.30	7.62	13.68	100%	13.68
3774	Sana'a Basin Water Management	03.03.2003	30.06.2009	24.00	2.75	21.25	100%	21.25
3860	Groundwater and Soil Conservation	26.02.2004	31.10.2009	40.00	1.99	38.01	100%	38.01
3700	Urban Water Supply and Sanitation	26.02.2004	31.12.2007	130.00	25.37	104.63	100%	104.63
3575	Taiz Municipal Dev't/Flood Protection	01.11.2001	31.12.2006	45.20	26.12	19.08	50%	9.54
3859	Third Public Works	26.02.2004	30.06.2009	45.00	9.29	35.71	20%	7.14
				385.50	95.91	289.59		212.62

Table A3.2: Current Dutch Programs and Contributions

Name Of Program	Dutch Dos	Yemeni Partner Institutions	Start of Program	End of Program	Cumulative Commitments EUR mn (with 2004)
2005 Support NWRA	RNE	NWRA	2005	2006	2.000
2005 Support GARWSP	RNE	GARWSP	2005	2006	2.000
MWE-SEA	RNE+NCEIA	MWE	2006	2008	0.600
EPA-EIA	RNE+NCEIA	EPA	2006	2008	0.600
UTS-TLCWS	RNE+Vitens	Taiz LCWS	2006	2008	1.200
Support NWRA	RNE	NWRA	2006	2008	6.000
Support GARWSP	RNE	GARWSP	2006	2008	6.000
TA-RWSSP	RNE	GARWSP	2003	2005	0.800

TOTALS 19.200

Table A3.3: Current German Projects and Contributions

Name of Project	German DOs	Yemeni Partner Institutions	Start of Proj.	End of Proj.	Cumulative Commitment EUR (mn)
Ibb STP Extension	KfW	LWSCI	2002	ongoing	4.850
Water loss Reduction	KfW	HWSCCA, TLCWS	1992	2004	7.669
Provincial Towns Program (PTP I) Phase I-III incl. LIP (W+S)	KfW	NWSA	1999	2005	60.776
Aden Sewerage incl. Accom. Measure	KfW	LWSCA	1996	ongoing	38.958
Aden Utility Support Program	KfW	LWSCA	pending	na	1.500
Sanitation Zabid (adjustment pending)	KfW	HWSLC	2000	ongoing	6.602
Bait al Faqih / Bajil Sanitation	KfW	HWSLC	2001	ongoing	15.850
Sa'ada Water + Sanitation incl. Accom. Measures	KfW	NWSA, NWRA	2004	ongoing	16.106
Al Shaher Emergency Measures	KfW	HWSCCA	pending	na	2.500
Provincial Towns Program (PTP II) incl. AM SFD Phases I, II, III (estimated water projects share 15%)	KfW	NWSA, LCWSI, HWSCCA	pending	na	35.200
Integrated Water Resources Management (IWRM)	KfW	SFD	2004	ongoing	1.350
Advisory Services for the W&S Sector	GTZ	NWRA, LCs	2004	ongoing	2.000
Technical Secretariat for the W&S Sector Reform	GTZ	NWSA	1994	ongoing	10.100
Personnel Development in the W&S Sector	GTZ	MWE	1996	ongoing	6.610
Training GIS-based Oper. & Mngmt. in Urban W&S Utilities	GTZ	NWSA, NWRA, LCs	2000	ongoing	3.180
Support of Water User Groups in rural areas	GTZ	LCs	2002	ongoing	1.250
Integrated Program Support to the Water Sector	GTZ	pending	pending		3.000
IWRM Advisory Services on Geo-environmental Information	GTZ	MWE, NWSA, NWRA, LCs	pending		
CIM Expert	BGR	GSMRB, NWRA	2004	ongoing	1.700
DED Development Workers (Ibb STP, ...)	CIM	NWRA		ongoing	
Capacity Building in the Water Sector	DED	LCs		ongoing	
Study & Expert Fund V (disbursements water related)	InWent	regional		ongoing	
Study & Expert Fund VI (disbursement water related)	KfW	MoPIC		ongoing	2.556
Study & Expert Fund VII (disbursements water related)	KfW	MoPIC		ongoing	1.534
Study & Expert Fund Water & Poverty	KfW	MoPIC		ongoing	1.500
Study & Expert Fund VIII (disbursements water related)	KfW	MoPIC	pending		
Study & Expert Fund (water related)	GTZ	MoPIC		ongoing	4.000
Study & Expert Fund (water related)	GTZ	MoPIC	pending		3.000
				TOTALS	231.791

Selected International Experiences with SWAp

Table A4.1: International Experiences with SWAp

Sector	SWAp	Summary
Agriculture	Mozambique Agriculture	<ul style="list-style-type: none"> • Support for comprehensive sector framework since 1998 • US\$30 million APL credit in multi-donor pool • Strengthened partnerships between Government, donors, civil society and the private sector
Education	Bangladesh Primary Education	<ul style="list-style-type: none"> • Support for country-wide government program since 2004 • US\$150 million SIL credit in ADB-led multi-donor pool. • Harmonization of donor assistance, based on country systems
	India Elementary Education	<ul style="list-style-type: none"> • Support for large, country-wide government program since 2004 • US\$500 million SIL credit in multi-donor pool with central and local government funds • Common reporting formats for expenditures, audits and monitoring
	Morocco Education	<ul style="list-style-type: none"> • Support for large-scale education reform since 2005 • US\$80 million SIL for first phase in Bank-Government pool • Full use of country systems and procedures
	Mozambique Education	<ul style="list-style-type: none"> • Support for sector framework for rebuilding post-conflict system since 1999 • US\$71 million SIP by traditional parallel disbursement • Promotes institutional reform within Ministry of Education
	Nepal Education	<ul style="list-style-type: none"> • Support for country-wide government programs since 1999 • US\$12.5 million APL credit, followed by US\$50 million SIL in multi-donor pool • Government-led push for greater use of SWAp principles over time
	Nicaragua Education	<ul style="list-style-type: none"> • Support for a Government-led decentralization program since 2004 • US\$15 million SIL credit by traditional parallel disbursement • Use of existing government MOE structure, rather than a PCU

	Senegal Education	<ul style="list-style-type: none"> • Support for existing sector framework since 2000 • US\$50 million APL credit by traditional parallel disbursement • Problems encountered with donor coordination hampered progress
Poverty Reduction	Uganda	<ul style="list-style-type: none"> • SWAp support integrated into multi-sectoral PRSP since 2001 • 3 PRSC grants of US\$150 million each • Comprehensive SWAps in education, health and water & sanitation
Brazil Family Health Program		<ul style="list-style-type: none"> • Support for extension of government program since 2002 • US\$68 million in Bank-Government pool • Performance-based financing for participating municipalities
Brazil Health Surveillance Program		<ul style="list-style-type: none"> • Support for government reform project since 1998 • US\$100 million APL in current phase (II) in Bank-Government pool and by traditional parallel disbursement • Introduces results-oriented accountability into a public system
Ghana Health		<ul style="list-style-type: none"> • Support for comprehensive sector-wide program since 1997 • US\$35 million SIL credit, followed by 57.3 million credit and 32.3 million grant in multi-donor pool • Government-driven with very high level of government ownership
Lesotho Health		<ul style="list-style-type: none"> • Support for comprehensive sector reform program since 2000 • US\$6.5 million APL credit by traditional parallel disbursement • Emphasis on developing capacity in FM and M&E prior to policy reform
Nepal Health		<ul style="list-style-type: none"> • Support for implementation plan for new sector strategy since 2004 • US\$10 million SIL credit, followed by US\$ 40 million grant in multi-donor pool • Strengthens government structures and management at all levels
Tanzania Health		<ul style="list-style-type: none"> • Support for comprehensive sector-wide framework since 2000 • US\$22 million APL credit (Phase I), followed by US\$ 65 million APL credit (Phase II) and US\$ 25 million grant in multi-donor pool • Transitioning towards PRSC while maintaining SWAp
Uganda Poverty Reduction		<ul style="list-style-type: none"> • SWAp support integrated into multi-sectoral PRSP since 2001 • 3 PRSC grants of US\$150 million each • Comprehensive SWAps in education, health and water & sanitation

Infrastructure Ghana Roads Program	<ul style="list-style-type: none"> • Support for an integrated sector approach to road maintenance, construction and management since 2001 • US\$220 million SIL credit by traditional parallel disbursement • Strengthening local institutions to manage safeguards
Mexico Decentralized Infrastructure Program	<ul style="list-style-type: none"> • Support for state-level multi-sector investment programs since 2004 • US\$108 million SIL in Bank-Government pool • Results orientation with performance-based financing
Infrastructure Poland Roads Program	<ul style="list-style-type: none"> • Support for national road maintenance budget since 2004 • US\$126 million SIL in Bank-Government pool • Reliance on country systems
Brazil Bolsa Familia (Cash Transfer) Program	<ul style="list-style-type: none"> • Support approved for scaling up government flagship program, but not yet effective • US\$572.2 million FSL in Bank-Government pool • Disbursements tied to technical improvements
Malawi HIV/ AIDS Program	<ul style="list-style-type: none"> • Support for multi-sectoral government plan since 2003 • US\$35 million SIL grant in multi-donor pool • Only Multi-Sectoral AIDS Project to use pooled funding

The Small Dams Program and Watershed Management

Watershed deterioration is a growing problem... Yemen's ancient terrace systems and historical dams provide excellent examples of traditional watershed management, reducing soil erosion and slowing damaging run off, aiding infiltration to groundwater and streams, and retaining water and providing high yielding agricultural land for the farmer. However, modern Yemen has proven not so good at dealing with public goods and externalities. Modern Yemeni communities have no tool to manage the classic watershed management trade off between upstream and downstream interests. As a result, there are frequent signs of catchment deterioration affecting both land and water: erosion, deforestation, groundwater depletion, saline intrusion, dried up springs, flood events.

Watershed management programs need to be revised using an integrated approach with more focus on upstream communities. Current watershed management activities are concentrated on the flawed small dams program financed by AFPPF. Investments under the Sana'a Basin Project also concentrate on dams and downstream interventions, with no investment in the upstream watershed. A broader approach to "integrated watershed management" is required (see Box). Watershed management is, however, one of the hardest challenges in development – multi-functional, multi-institutional, with pervasive externalities. Support should be mobilized for this neglected investment. Given the multi-institutional challenge, there is scope for proactive donor and NGO involvement to relieve the burden on Government agencies which typically find it hard to coordinate the multiple interventions needed for watershed management.

International Best Practice in Sustainable Watershed Management Projects

Empirical evidence shows that the most sustainable watershed management projects focus on poverty reduction in the catchment through improvements to market access, education, diversification and wider livelihood improvement. Thus, sustainability starts with the farm family and its livelihood as the unit of development and recognizes the role of watershed communities as "conservation managers".

A typical approach is a participatory project with a poverty focus aimed at changing land use and boosting incomes through higher value crops and more sustainable practices, combined with conservation investments. Policy and regulation play a role, too: restrictions on pasture use and improving security of land tenure are two ways that have been tried successfully. Innovative solutions have been piloted. In Latin America, downstream beneficiaries such as water utilities or tourism groups pay for "environmental services" like protection of catchments and maintenance of scenic and water quality assets.

The benefits of sustainable watershed management are considerable. Public benefits include carbon sequestration, ecotourism potential and hydrological benefits. Upstream community benefits include improved food security, better health and sanitation, better access, and community education and empowerment.

Community participation in design, implementation and funding of works is essential. The community is the unit that must carry on the work without major subsidy. Cash contributions from beneficiaries bring commitment and realism about interventions. Successful approaches typically start with careful land use planning. Secure land tenure, a cash crop orientation and profitability of investments are crucial. Experience shows that investments like the planting of fruit trees or the adoption of micro-irrigation allow both income improvement and soil conservation. Early returns are needed to maintain interest. Evidence also shows the importance of reducing women's workload and diversifying their livelihood source if families are to make resource conservation a priority.

Adapted from a note prepared for the Agricultural Water Management Sourcebook (2004)

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