

Republic of Yemen  
National Water Sector Strategy and Investment Program - NWSSIP  
JOINT ANNUAL REVIEW (JAR)  
**NWSSIP YEAR 2005 IMPLEMENTATION**

Aide-Mémoire  
June 28, 2006

**Rationale and context**

On June 28, the Government of Yemen (GoY) and the National Water Sector Strategy and Investment Plan (NWSSIP) declaration of support signatories<sup>1</sup> concluded the first Joint Annual Review (JAR) of the implementation of NWSSIP. The review assessed GoY performance over 2005 based on the NWSSIP framework approved by the Cabinet in May 2005, and drew key lessons learned with bearing on performance in 2006 and the planning and budget process 2007.

The intention was further to verify the NWSSIP partners' continued commitments to the national strategy based on a transparent and participatory assessment of strengths and weaknesses, and to inform all stakeholders about crucial developments and challenges.

The main findings and recommendations are presented in this Aide Memoire which consists of the following elements:

- Overall assessment
- Summaries of 5 sub-sectors findings and recommendations
  - Urban water and sanitation
  - Rural water and sanitation
  - Water resources management
  - Irrigation and watershed
  - Environment
- Findings and recommendations on crosscutting issues
  - NWSSIP program coordination
  - NWSSIP finance
  - NWSSIP Monitoring & evaluation
  - Capacity development
  - Governance
  - Donor performance, harmonization and alignment
  - NWSSIP relevance and perspective
- Attachments
  - List of JAR review team participants
  - Summary reports from sub-sector review teams (as above)
  - NWSSIP finance report
  - Report on donor coordination, harmonization and alignment
  - Update on NWSSIP action plan compliance

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<sup>1</sup> The NWSSIP signatories are Germany, The Netherlands, DFID, EC, Japan, UNDP and World Bank.

## Overall Assessment

Process organization: Six working groups or review teams, representing the sub-sectors in the Ministry of Water and Environment mentioned above (MWE) and the irrigation sub-sector in the Ministry of Agriculture and Irrigation (MAI), consisting of Government and donor representatives, completed detailed reviews in the sub-sectors. In addition, a MWE-donor committee managed the process and ensures quality control. An inter-ministerial steering committee (IMSC)<sup>2</sup> was set up, headed by the vice minister of MoPIC to address the cross cutting issues in the NWSSIP implementation.

Participation and ownership: under the guidance of the Ministry of Water and Environment (MWE), key donors representatives and staff from all concerned sector authorities as well as the MAI/GDI undertook a huge effort in data collection and evaluation. The process clearly enhanced the national ownership and contributed to more integrated comprehension of all involved stakeholders. Although some inputs were received, the IMSC showed little convening power and coordination results with the concerned off-sector government agencies.

Overall financial performance: The 2005 NWSSIP budget, the first year of implementation, was planned for an amount of USD some 308 million (annual share of 5-year NWSSIP investment program). Total disbursements in 2005 amounted to USD 102.4 million. NWSSIP actions in year 2005 were thus underfinanced by 67%. Reasons for this were low budget approval ratio, limited cash-flow from approved budgets, and absorptive capacity related constraints.

Progress rating: the performance of the sub-sectors in 2005 is rated based on the criteria of (i) budget performance (disbursements in line with NWSSIP targets); (ii) results (quantitative plans achieved and conducive to outcomes); (iii) outcomes (indicators in line with NWSSIP target for the year or on track for compliance in 2009); (iv) provisions for sustainability of outcomes (for example, operation of water and sanitation systems) secured. Based on these 4 criteria, the overall performance is considered to be moderately satisfactory.

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<sup>2</sup> The inter-ministerial committee included members of MoPIC, MoF, MAI, MWE, COCA and MoLA

## Summaries of sub-sector findings and recommendations

### Urban water and sanitation:

- Reliable service coverage baseline in the urban context is difficult to establish; urban growth is more accelerated than assumed in NWSSIP, urban population share in 2004 already 28.4%
- Average water production stable, but with added cost; substantial local water scarcity increase pressure on rural-urban water transfers
- Investment budget approval (50%) and effective disbursement (77%) well below NWSSIP target of USD 150 million/year (total disbursement 45.2 million)
- Achieved water coverage 58% (pop. 3.428 million), sewerage coverage 32% (pop. 1.875 million); NWSSIP target water (71%) achievable with additional resources, for sewerage needs adjustment (from 52% to 42%)
- For 2006, the sub-sector plans to deliver 47,000 water and 31,000 sewerage house connections at a cost of USD 98.6 million
- Operational efficiencies moderately improving (UFW 29.4; collection 98%, physical completion rate 71%)
- Cost coverage of O&M widely achieved (with 120% billed, 107% collected own revenues); full cost coverage not achievable in short term due mainly to recent wage and diesel price increase
- Identified capacity building needs of utilities require “trainable” staff; decisions on incompetent staff, and above all, changes in management positions, should be addressed where needed
- Water delivery system is pro-poor and affordable; average monthly expenses on QAT are four times the expenditure for water

### Rural water and sanitation

- Investment budget approval (56%) and effective disbursement (87%) well below NWSSIP target of USD 96 million/year; financial output of GARWSP is complemented by other actors (total disbursement USD 29.5 million)
- The progress in the sub-sector was however considerable and in line with 2009 targets in spite of the 2005 financing gap, among others owed to unit investment costs per capita for rural water supply below the NWSSIP benchmark
- In 2005 through 252 completed schemes 580,700 persons in the rural areas obtained access to safe water. Coverage increased to overall 37.5% (pop. 14.5 million) and the NWSSIP target for 2009 of 47% coverage is achievable. Planned coverage for 2006 is 42.5
- For 2006, the sub-sector plans to complete 351 water supply schemes, serving 911,000 rural population at a total cost of US\$ 37 million
- Sanitation coverage data for the rural areas are hardly available: it is therefore risky to assert the progress in coverage in this area. In the coming years the sub-sector needs to pay considerable attention to sanitation and hygiene promotion in their plans and programs
- The sub-sector strategy is awaiting cabinet approval and the sub-sector needs to develop annual sub-sector investment plans with clear funding requirements.
- There are many actors in rural water supply and GARWSP is profiling as the apex institution for the sub-sector; however, concerns exist with regard to its capacity development and organisational strength

- The larger part of the water schemes, if not all, were handed over to established Water User Associations (WUA) that have to take over the operation and maintenance of the schemes; comprehensive data on operational status of schemes is not yet available
- During 2005 increase of price of diesel has resulted in higher water tariffs asked by the WUA. Water tariffs in rural water supply schemes are now in the range of YR 120-180 per cbm (well above the “lifeline” tariffs in urban utilities)

### Water resources management

- NWRA's planned investment budget approval (77%) and effective disbursement (68%) is well below NWSSIP target of USD 9.4 million/year (total disbursement only USD 1.1 million); however, some activities (USD 1.6 million approved budget share) responsibility of AFPPF and CES; NWRA's approved 2006 investment budget increase up to USD 5.4 million, but still far from the NWSSIP target and not catching up on backlog
- Slow progress in development of water resources management plans for the critical basins and the insignificant control of groundwater depletion so far achieved in the declared protected areas of Sa'ada, Sana'a and Ta'iz are a major concern; the only plan ready and under implementation is in Ta'iz
- NWRA seems to have limited clarity about the basin plan development process of preparation, plan analysis and adoption, and plan implementation
- Water law amendments awaiting in parliament ratification since 2004
- Some progress made in the implementation of the Water Law through the introduction of the well licensing system and the registration of drilling rigs; 73 drilling rig contractors (of a total of 304) have been licensed in 2005 with tough guarantee requirement
- NWRA headquarters received 889 applications (tenfold increase compared to 2003) and emitted 360 licenses for well drilling; 518 violations of the Water Law were registered and followed, YR 7 million fines charged; a NWRA hotline has triggered public denouncements of violations, but some local authorities ignore the law; direct enforcement actions not in hands of NWRA
- Multiple public awareness campaigns were launched
- The basins of Sana'a, Ta'iz and Sa'ada have been declared protected groundwater zones with a ban on new agricultural wells, and new water basin committees and/or water user groups have been established in 3 basins (so far 5 basins covered)
- In monitoring activities, NWRA has inventoried 55,000 wells (21,000 in 2005), and there are 547 monitoring points at the end of 2005 (amongst others: groundwater 304, surface water 34, meteorological 26, rainfall 109)
- Water quality protection zones have been established at 16 public well fields in 5 basins
- NWRA established 1 branch in 2005 and has now a total of 6; since its creation NWRA has integrated 59 new employees in its HQ and branches; more than 30% of NWRA staff still work on donor-financed contracts and needs to be integrated within the formal ranks of NWRA by 2007
- Reporting, management information and management capacity are generally weak; water resources management being perhaps Yemen's number one development challenge, it is essential for the MWE, MoF, MoPIC and the NWSSIP donor signatories to find solutions for the rather unsatisfactory overall performance.

### Irrigation and watershed

- Groundwater irrigated areas increased from 37,000 has in 1970 to 407,000 has in 2004 and are still growing, while rain-fed areas shrunk from 1,200,000 has to 460,000 has in the same period

- Tackling the perverse incentives to groundwater water use is a priority to long term water conservation
- Irrigation water use efficiencies low (35% under spate, 40-45% with groundwater); financial returns on water use generally low except for Qat
- Neglect of irrigation infrastructure O&M, abandonment of terraces and water harvesting structures curb asset value and sustainability
- Agricultural extension weak or in some areas non-existent
- Growing concentration of land holdings, affecting marginal farmers
- Restructuring of irrigation sector in MAI delayed and MAI-MWE interface not well organized
- Funding constraints for institutional capacity building
- Approved investment budget was surpassed by effective disbursements and reached almost 78% of NWSSIP annual target (USD 29.5 million total disbursements)
- Improved irrigation systems on 41,500 ha (all in World Bank projects LWCP, SBWMP, GSCP) provided 73 million cbm water savings in 2005 (about 56% of metered water production in urban utilities)
- Total agricultural share of AFPPF (approx. USD 20 million) mostly spend on dams and other water structures; potentially, re-orientation of funding priorities could provide USD 8 million annually for irrigation improvements, eventually on a growing scale; if more funds were allocated to irrigation efficiency, this would allow reaching a target of 400,000 ha of irrigation improvement systems in 10-12 years, producing a water savings of between 20-45%
- For each USD spent on irrigation improvement, in 2005 between 1.78 and 5.00 cbm of water was saved, and farmers income was improved by 4 cents; 2006 targets are to at least double the water savings impact and to multiply farmers income growth tenfold (up to 38 cents per dollar investment)
- Improvements on water harvesting and spate irrigation have started and show promising results in (non-groundwater) water savings and increase of farmers income
- MAI/GDI declares willingness to participate in sector coordination align budget plans with NWSSIP mid-term results framework

### Environmental protection

- EPA and other stakeholders agree that the environmental component needs to be reviewed, assigning EPA a role more attached to overall monitoring, setting of standards and random verifications of compliance
- For practically all environmental actions defined in NWSSIP, EPA is not the primary actor
- EPA actually requested more than the NWSSIP annual investment target of USD 4.2 million, 44% was approved and 63% disbursed; total disbursement was USD 1.4 million; exact allocation of this amount to NWSSIP actions unclear, while most NWSSIP relevant actions were implemented by other agencies
- Water quality action group was established under the WRM sub-sector, while EPA did not advance on the NWSSIP proposal of establishing a national water quality laboratory
- Actions were related to revision of EIA studies, environmental legislation / policies / strategies, awareness and reporting. Of the 8 strategies and plans developed by EPA, none deals specifically with NWSSIP actions; and of all 20 EIA studies reviewed by EPA, only 1 deals with NWSSIP actions
- EPA is involved in EIA on sectoral studies for water and sanitation in 14 urban centers
- EPA worked on issues of institutional development and by-laws

## **Findings and recommendations on crosscutting issues**

### NWSSIP Program coordination

It is quite clear that NWSSIP identifies two types of needed coordination, the first relates to donor-donor coordination and the second, although indirectly, relates to inner government coordination. With regard to donor-donor coordination, it is evident that donors have reacted to the need to align, to various degrees, their efforts in line with NWSSIP. The establishment of the Donor Core Group (DCG) to represent the NWSSIP support signatories has been an effective mean to unite visions and facilitate communication and coordination with the government (more information is provided in section IV). As for the second type of coordination, and despite the official ratification of NWSSIP by the Cabinet, it can be concluded that it has been more difficult to establish a common effective coordination mechanism to deal with cross cutting issues that might hinder the overall sustainable development of the country as clarified in NWSSIP. It should be reemphasised that water can not be treated as a stand-alone sector due to the many interrelations that exist between water and the other sectors be it economic (agriculture, tourism, manufacturing, etc.) or social (education, health, etc.). Although there is no overall coordinated efforts for multi organisational coordination mechanism, there are "fragmented" efforts between some sectors. In this regard, there are lately coordination efforts taking place between the MWE and the MAI aimed at unifying their visions on agricultural water use. To this end cooperation of the General Department of Irrigation of the MAI during the JAR process is viewed as a positive signal. There are also cooperation and coordination efforts between the MWE and MoLA, particularly in urban and rural water supply and sanitation sub-sectors and to a much lesser extent in the area of water resources management. Coordination with the MoF takes a more formal nature of budget negotiations and approval; in this regard there is nothing that distinguishes the water sector from the rest of government despite the many financial issues that the sector is facing (refer to the sub-sectors summary reports). From the above, it is evident that there is a great need for greater inter-ministerial coordination where although the role of the MWE is important as it is the concerned party, the role of the MoPIC is just as important as it is the mandated institution to ensure overall sustainable development of the country. In this regard the MoPIC has not shown much interest in playing such a role. In order to ensure proper inter-ministerial coordination, it is proposed that the MoPIC heads an inter-ministerial coordination committee to include the MWE, MAI, MoF, and MoLA. To ensure an added value to the work of such committee, representation should be of an adequate level (deputy minister) for proper implementation of approved decisions.

### NWSSIP finance

The 2005 NWSSIP budget has been underfinanced by 67%. Reasons for this were low budget approval ratio, limited cash-flow from approved budgets, delays in effectiveness of donor funding and absorptive capacity related constraints.

Partly because of the poor 2005 performance, funds available and earmarked for the remaining 4 years till the 2009 NWSSIP horizon seem to be sufficient considering realistic absorption capacity. Of the already existing commitments of donors amounting to USD 600 million, 72% are still undisbursed at the end of 2005. New commitments are on the horizon, bringing up the available undisbursed donor funding to some USD 605 million. The GoY has provided for a USD 102 million 2006 investment budget and is expected to increase its contribution to USD 115 million per year in effective and disbursed funding. Overall until end of 2009, USD 1.055 billion may be in the envelope requiring USD 263.5 million annual disbursement, 57.3% of which could be donor contributions. While the total NWSSIP finance

(planned = USD 1.538 billion) including 2005 disbursements would then still have a shortfall of some USD 380 million, it is obvious at this junction that an increase of USD 160 million per year over the 2005 disbursement performance is a quite ambitious target. On the other hand, this indicative NWSSIP MTEF may still be affected by adverse cost developments especially in the urban WSS sector, which would demand more funds for the same outcomes and time span. In addition, rolling programs shall be initiated which can lay the groundwork for extended service coverage beyond 2009, while irrigation efficiency investments should be sped up as much as possible. At this point, the 2006 sector investment is secured and the mid-term perspectives are reasonably positive.

#### NWSSIP monitoring and evaluation

NWSSIP monitoring and evaluation is intended to allow sector stakeholders to measure implementation and results against targets. Monitoring and evaluation systems typically track implementation and results through a “chain of causality” at four levels: inputs, outputs, outcomes and impacts. The NWSSIP web page was installed in February 2006 and over a period of four months has become a powerful communication tool for NWSSIP stakeholders. The web page has gone from 25 initial users to over 100 users. The NWSSIP related documents and comments are centralized, organized, archived and accessible from any computer with a web browser. This is becoming the NWSSIP knowledge base and a great asset for future planning for the Yemen water sector. The process to institutionalize the M&E Unit within the Ministry is moving forward. The NWSSIP M&E Coordinator has been provided with all relevant tools, reporting formats and spreadsheets to continue his work in the future quarterly reports. The NWSSIP M&E system will be revised and strengthened according to JAR requirements.

#### Capacity development

In general, capacity development in water sector organizations has made progress. GARWSP has increased its absorption capacities. Urban Water Utilities have also shown improved performance due to investment in capacity development. However, a limited understanding of capacity development can often be observed. Such an understanding is focused on training of staff only, although systematic personnel development does not exist yet. Capacity development includes a wide range of measures aiming at improving the capability of organizations and individuals to cope with challenges and performance requirements. In many cases too much attention has been given to technical training and qualification while management, organizational development and business operation has been on the agenda only to a limited extent. Only few sector organisations have a comprehensive strategy for systematic capacity development. The strategies and action plans of most of the sector organizations do not reflect capacity development in an appropriate manner.

Capacity Development failed in some cases due to a serious lack of committed and trainable staff in sector organizations. Thus, restructuring in staff is a prerequisite for developing capacities of sector organizations. Capacity Development remains to a large extent donor-driven and donor-funded. The budget of sector organizations indicates that capacity development is not a priority issue. This leads e.g. into poor absorption of investment budgets. The assistance of donors has to be more coordinated in order to make capacity development more effective and to avoid duplication of work.

There is a clear need to allocate more financial resources for capacity development. Allocation of financial resources for capacity development should be based on strategies and action plans. Such strategies and action plans are still to be developed in many cases.

All sector organizations – MWE, authorities, water utilities are urged to give priority to capacity development. There is a need to introduce a comprehensive approach towards capacity development which addresses technical and management aspects equally. Such an approach also combines training with coaching, supervision and advisory services. A first step towards developing such strategy is the ongoing HRD inventory and assessment.

### Governance

The success of the NWSSIP implementation is closely related to the soundness of existing systems, procedures and progress in reforms in a number of **Public Finance Management** and Governance issues, that are not the direct responsibility of the water sector itself, but of the MoF, MoPIC, MAI and MoLA. These issues concern the link between NWSSIP planning and annual budgeting cycle, budget execution, external (COCA) controls, salary policies, anti-corruption and anti-nepotism strategies and decentralisation policies and last but not least, civil service reform and human resources management and development.

Assessment shows that there are important weaknesses in the link between the NWSSIP **budget framework** and the annual planning and budgeting of the sector agencies. It is unclear how far the MWE itself, the various sub-sector agencies, MoPIC and MoF consider the NWSSIP plan and activities when the sub-sector ceilings are determined for the next budget year. There is a descending cascade of NWSSIP planned budget, requested budget from MoF, approved budget and the real expenditures. It is necessary to improve the link between the NWSSIP plan and budget and the annual planning and budgeting cycle. This requires commitment by the Government (MWE, MoPIC and MoF) towards the implementation and realization of NWSSIP plans and targets.

COCA **external audit** reports systematically evaluate that the internal control and monitoring systems of the sector agencies are weak and need strengthening. This advice needs to be seriously followed up by the sector agencies. COCA reports complain systematically about donor investment funds that are administered solely by project units. COCA auditors should exercise a genuine effort to understand the scope and impact of project activities and should avoid that projects are branded as useless and not helpful. Projects should operate transparent and accountable and make available external (private) audit reports to the COCA auditors.

Qat is a controversial issue in Yemen. Qat is key responsible for continued fast groundwater depletion, while being a very profitable cash crop. Expansion of qat-cultivated area (by some 9% pa according to the World Bank CAS) is still going on (e.g. in Ra'ada, that is not yet declared a groundwater protected area). The Ra'ada Water Supply Utility is planning for new wells to drill, as in a few years time the first wells will run dry: the qat is encroaching closer and closer and is directly affecting the well fields. In the Al-Haima, Ta'iz well field (a declared protected area) of the Ta'iz Local Corporation for Water Supply and Sanitation, qat cultivation is continuing in the same inefficient way as 10 years ago when the water crisis there became first apparent: still the precious water is flowing over the dirt road through open channels to the qat field. The only introduced improvement is a qat variety that can be harvested three times a year (thus needing a triple water gift). Qat farming will end in depleting the groundwater resources. The cities demand water AND qat: if the choice is to continue providing both qat and water from the same groundwater protected areas, both qat and water will be exhausted tomorrow. The cities and citizens will have to choose whether they want qat or water: they cannot have both. NWSSIP discusses a number of issues and strategies related to qat. It proposes to treat qat as a crop and to implement the program on qat which was agreed at the National Conference on qat in 2002. **Dealing with qat is a governance issue.** It is requiring governance of water in a wise manner. During 2005

progress was made in the irrigation sub-sector with the implementation of modern irrigation systems in the Sana'a basin, also in qat irrigated areas. This needs to be continued and scaled-up as soon as possible for the groundwater protected areas, but qat area expansion has to be stopped immediately. The Agriculture Fisheries Production and Promotion Fund (AFPPF), when restructured by enlarging its share of funds for modern irrigation, can be of considerable help in this.

#### Donor performance, harmonization and alignment

Overall, in 2005, the donor performance was satisfactory. While Yemen has in general a low ODA dependency (12-15 USD/c/yr), the contribution of donors in the water sector MTEF represents an impressive 57% (USD 432 million un-disbursed end of 2005); much of these funds are however still pipelined in larger urban projects due to their rather complex process of individual studies, agreements, planning and approvals.

Although project aid is still the dominant aid modality in the water sector, some exemplary developments are worth mentioning: (i) the Netherlands has started in 2005 with a modified budget support approach for two sector institutions, with so far mixed experience; (ii) German financial aid in UWSS is implemented directly by Yemeni counterpart institutions (LCs, NWSA) without external PIUs, while German technical cooperation is directly inserted in sector institutions and has a significant relevance for institutional development in the sector. Regional funds usually delegate responsibility for implementation of their investment funding fully to Yemeni sector agencies.

The World Bank, in close collaboration with the two other key donors in the sector, Germany and The Netherlands, conducted at the end of 2005 an assessment study on the readiness and opportunities for sector wide approaches (SWAp) in the water sector. It was concluded that the movement into SWAp at the level of specific sub-sectors can begin right away: what is required is simply a joint government-donor agreement for any of the sub-sectors in question and the related roadmap. The potential benefits of moving into a SWAp framework can ensure stronger country ownership, strengthen national capacity systems and institutions, and more effective implementation with no duplication and no wasted resources. The World Bank, in its new Country Assistance Strategy (CAS), is considering to assist the Government of Yemen with programmatic lending, starting in the water sector with a Poverty Reduction Strategy Credit (PRSC) in the year 2009. The key donors in the water sector support this approach. Germany's future engagement in the UWSS will be geared towards a more flexible and open program approach. On the Yemeni side, a clear and substantiated aid policy statement indicating preferences for programmatic support is needed, and serious efforts have to be undertaken to create the enabling environment in terms of systems, instruments and institutional capacities. There is consensus that this structural improvement of donor coordination needs to be complemented with more concrete collaboration at the level of programs and projects on the ground.

#### NWSSIP relevance and perspective

The JAR has proven that NWSSIP's policy recommendations and strategic orientations continue to be valid. NWSSIP is confirmed as a dynamic tool for good sector management. Action plans need to be updated and partly reformulated, but have served good purpose in guiding the efforts during the first year of NWSSIP implementation. As is obvious, the investment program needs continuous follow-up and updating based on available financial resources and project/program implementations.

The next steps are a systematic follow-up on detected deficiencies and recommendations. NWSSIP needs to be based within a mid-term results framework (MTRF) and linked to the respective mid-term expenditure framework (MTEF). A first joint annual plan has to be established as soon as possible as an additional tool for steering actions and results in the sector.