



UTENRIKSDEPARTEMENTET

Ministry of Foreign Affairs

Evaluation Report 3/2004

Evaluation of CESAR's Activities in the Middle East Funded by Norway



**Information from the
Royal Norwegian Ministry of Foreign Affairs**

The Ministry's Information Section provides information with regard to current foreign policy, trade policy, and development cooperation policy.

Material can be ordered from
fax no. + 47 22 24 27 87

Foreign Ministry switchboard
Tel. + 47 22 24 36 00
Fax + 47 22 24 95 80 or + 47 22 24 95 81

Information is available on the Internet at
<http://odin.dep.no/ud>

Information to the media:

The Ministry's Press Spokesperson and the Senior Information Officer on Development Cooperation can be contacted through the Foreign Ministry switchboard

Foreign journalists:

The Norway International Press Centre, NIPS, is the Foreign Ministry's service centre for foreign journalists in Norway,
tel. + 47 22 83 83 10

In countries outside of Norway, information on the Ministry of Foreign Affairs may be obtained from Norwegian embassies or consulates

Evaluation of CESAR's Activities in the Middle East Funded by Norway

A report prepared by Nordic Consulting Group

Jens Claussen, team leader

Fadia Daibes

Jalal Halwani

Stein Hansen

Elias Salameh

Erika Weinthal

The Ministry of Foreign Affairs has, in accordance with § 6.1.1 in the Norwegian Act of 19 June 1970 relating to public access to documents in the public administration, chosen not to disclose certain details in the report. Deleted text is marked with * and a corresponding footnote in the report. Responsibility for the contents and presentation of findings and recommendations rests with Nordic Consulting Group. The views and opinions expressed in the report do not necessarily correspond with those of the Ministry of Foreign Affairs.

Table of Contents

List of Abbreviations	5
1 Executive Summary	7
2 Objective and Scope	12
2.1 Objective and Scope of the Evaluation	12
2.2 Approach and Methodology	13
2.3 Management of Information	15
3 Background	16
4 Overview of CESAR Activities in the Middle East	18
5 Assessment of Projects	21
5.1 Water Resource Data for Decision Making in the Middle East (Atlas I)	21
5.2 The Regional Comparative Studies	23
5.3 The Declaration of Principles	25
5.4 The Waternet	25
5.5 The Regional Water and Research Centre	28
5.6 Water Atlas Turkey, Syria and Iraq (Atlas II)	28
5.7 The Palestinian Water Law	32
5.8 The Early Warning System, Quality Research Component and Simulation Model, Jordan	33
5.9 Decision-making Support System in Lebanon	36
5.10 Analysis of Water Quality and Quantity in the Euphrates River – Syria (Atlas II b)	37
5.11 Strategic Water Management Syria	38
6 Overall Assessment of Projects	40
6.1 Relevance of Projects	40
6.2 Effectiveness and Impact of Projects	40
6.3 Cost Efficiency	42
6.4 Sustainability	44
7 CESAR and its Approach	45
8 CESAR and the Multilateral Working Group	48
9 CESAR and NORAD Support to PWA	50
10 CESAR and the Ministry of Foreign Affairs	51
11 Conclusions and Recommendations	55
11.1 Conclusions	55
11.2 Recommendations	57

Annex I	Terms of Reference	61
Annex II	List of Main Persons Consulted*	64
Annex III	List of Reference Documents	65
Annex IV	Overview of CESAR Projects in the Middle East	71
Annex V	Water as a Political Issue in the Middle East.	84
Annex VI	Conflict and Cooperation over Water Issues	90
Annex VII	The Zai Treatment Plant in Jordan	95

*) List deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

List of Abbreviations

CESAR	Centre for Environmental Studies and Resource Management
DFI	Development Finance Institution
DOP	Declaration of Principles for Cooperation on Water-related Matters and New and Additional Water Resources, 1996
EWS	Early Warning System
EXACT	Executive Action Team (within the Multilateral Working Group on Water)
FAFO	Institute for Applied Social Science, Norway
GIS	Geographical Information System
GS	Gaza Strip
JR	Jordan River
JVA	Jordan Valley Authority
KAC	King Abdullah Canal
LMA	Lebanon's Ministry of Agriculture
MFA	Ministry of Foreign Affairs, Norway
MoIRR	Ministry of Irrigation in Syria
MOP	Ministry of Planning, PA
MOWI	Ministry of Water and Irrigation, Jordan
MWGW	Multilateral Working Group on Water
NCG	Nordic Consulting Group
NGO	Non-Governmental Organisation
NOK	Norwegian Kroner
NORAD	Norwegian Agency for Development Cooperation
PA	Palestinian Authority
PHG	Palestinian Hydrological Group
PLO	Palestinian Liberation Organisation
PWA	Palestinian Water Authority
RWRC	Regional Waternet and Research Centre, Amman, Jordan
TA	Technical Assistance
UN	United Nations
UNEP	United Nations Environment Program
UNITAR	United Nations Institute for Training and Research
USA	United States of America
USD	United States Dollar
USGS	United States Geological Survey
WAJ	Water Authority of Jordan
WB	West Bank

WFED World Foundation for Environment and Development
WQMS Water Quality Monitoring System (Atlas IIb in Syria)

1 Executive Summary

This report presents the outcome of an evaluation of activities in the Middle East by the Centre for Environmental Studies and Resource Management (CESAR). The evaluation has been commissioned by the Royal Ministry of Foreign Affairs, Norway. The evaluation has been undertaken by Nordic Consulting Group (NCG), Norway from May to September 2003 with a team consisting of Norwegian and regional experts.

The main purposes of the evaluation have been:

- To assess the relevance of CESAR's work as part of Norwegian efforts to facilitate the peace process in the Middle East through projects promoting regional cooperation on joint water resources.
- To provide an overview of and assess the projects to support the above process funded by the Royal Ministry of Foreign Affairs, Norway (MFA) and the Norwegian Agency for Development Cooperation (NORAD) and implemented by CESAR.
- To make recommendations concerning future Norwegian involvement in the region concerning water issues, including the role of CESAR.

In the Middle East CESAR has played and/or attempted to play a role related to three sets of water problems;

- The first involves the Jordan and Yarmuk River system, as well as the West Bank and Gaza aquifers. Countries involved include Jordan, Israel, Syria, Lebanon, and the Palestinian Territories.
- The second involves the Tigris and Euphrates River systems, which includes Syria, Turkey and Iraq.

- The third involves the Litani River Basin in Lebanon, which is indirectly related to the Jordan River Basin.

The main projects of CESAR subject to this evaluation have been;

- Projects under the framework of the Multilateral Working Group on Water (MWGW) established in 1992 following the Madrid Conference in 1991. These projects were undertaken with participation from and focus on Israel, the Palestinian Authority (PA) and Jordan, and with continued attempts to bring Syria and Lebanon into the process. The projects under this heading are Water Resource Data for Decision Making in the Middle East (Atlas I), the Regional Comparative Study on Water Laws, Water Institutions and Water Economics with separate regional studies covering Israel, PA and Jordan (Vol. I), and Syria and Lebanon (Vol. II), Waternet which currently involves Israel, PA and Jordan, and the Regional Waternet and Research Centre which is under development based in Amman under an agreement between the three "Core Parties" Israel, PA and Jordan.
- A separate initiative related to Lebanon.*
- A project to establish an Early Warning System for Jordan following a specific request related to problems of water supply to Amman through the King Abdullah Canal in 1998.
- Initiatives to open a dialogue with Syria – partly as an attempt to bring Syria closer to the work of the MWGW and partly engaging in a process to promote dialogue between Turkey, Syria and Iraq on the Tigris and Euphrates River systems.

*) Part of sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

This included the Water Resource Management project for the Tigris and Euphrates River systems (Atlas II), the supply of a Water Monitoring System for Syria (Atlas IIb) and a study to assist Syria in developing its water management system.

The above projects have been assessed in terms of relevance to the overall objective of fostering regional cooperation as well as effectiveness, efficiency and sustainability of project outcomes. The activities have been assessed in the light of the many political developments in the region since the Madrid Conference in 1991 and the fact that activities have been undertaken in an environment characterised by frequent and unpredictable political changes.

The evaluation has collected data and information from stakeholders and resource persons in the region, in Norway and USA, and reviewed a large number of documents of relevance to the evaluation (ref. Annex III).

The main issue for this evaluation has been to assess how the parties have benefited from the contribution CESAR and MFA have made to the process they intended to support. The projects undertaken have been assessed focussing on their relevance in supporting these processes, the efficiency in implementing them and actual quantity and quality of outputs produced.

It is important to keep in mind the political and historic context in which the above has been implemented. The processes facilitated and projects implemented have been continuously affected by a very difficult and unpredictable political environment with requirements for frequent changes in approach to overcome constraints in implementation. Even to maintain the required dialogue between the parties in order to proceed with various activities has often posed a challenge far beyond what could be initially foreseen. This is a feature which has characterised all externally supported processes in this region attempting to promote dialogue among the various parties. It may serve to explain why real "success stories" are few and

far between, and few attempts to facilitate trans-boundary cooperation in the region can show outcomes as initially planned.

Since CESAR was established in 1995 until 2002, it has received 75.4 million NOK from MFA and 3.7 million NOK from NORAD for the above projects. These amounts constitute 86 percent of CESAR's total revenue during the same period. Accordingly MFA has been the main promoter and financial partner for CESAR. This does not include funding of 8.1 million NOK from MFA to the World Foundation for Environment and Development (WFED), the foundation CESAR evolved from, and which used some of the funding for projects subsequently transferred to CESAR.

In summary, the assessment of the projects and the wider process CESAR has been engaged in indicate that CESAR has played an important role as a facilitator, and even sometimes as a mediator.

In the context of the MWGW and associated projects, CESAR has acted as a facilitator and moderator in such a manner that it has generated trust and confidence among the Core Parties to proceed with the joint activities initiated. The role CESAR has played in this context has created an environment which has promoted continued cooperation among the parties even during times when the political environment has been non-conducive. In this respect CESAR has made significant contributions to promoting and maintaining a dialogue among the parties.

CESAR has on several occasions, through some of the projects, attempted to bring Syria and Lebanon into the MWGW, but due to the political climate in the region this has never materialised. However, through this process, CESAR opened the door for a wider cooperation with Syria and gradually attempted to establish a tripartite process to include Turkey and Iraq.

These achievements notwithstanding, the actual outcomes of the projects vary significantly.

Water Atlas I produced a publication which was neither widely distributed nor used. The publication presented and contained references to publicly available data but with limited new information. Despite the shortcomings of the output, the project proved to be instrumental in introducing CESAR to the MWGW as a facilitator for subsequent projects.

The Regional Comparative Studies were the first of CESAR's projects formally adopted under the framework of the MWGW. This project led to a closer cooperation among the parties and created an environment for confidence building among them. On one occasion it even led to the first (and only) meeting among all five parties. It also served to promote a tangible output promoted by Norway, namely the Declaration of Principles for Cooperation on Water-related Matters and New and Additional Water Resources (DOP) among the three Core Parties in 1996. The DOP paved the way for longer term cooperation (like the Waternet and establishing the Regional Waternet and Research Centre).

The *Waternet* project was intended to establish a computerised library system connected through a network to share water related information among the three Core Parties. The regional network has so far not functioned. It has, to a very limited extent, been institutionalised among the parties to maintain its operation. These are issues that need to be addressed if the Waternet is to be reactivated and fully implemented.

The Regional Water Centre has yet to be fully established and subsequently it is too early to draw any conclusion as to its effectiveness and impact. It will however require financial commitments from the parties to be sustained.

With its engagement in the comparative studies, CESAR was requested to provide assistance for the development of a *Palestinian Water Law*. The initial draft was used for elaborating a Palestinian water law although through a process that did not fully engage relevant Palestinian institutions in the process. This may

serve to explain the substantial deviation between the initial drafts and the final outcome.

The *Early Warning System* supplied by CESAR to Jordan may be claimed to have had an adverse impact since the initial problem it was supposed to resolve still remains unresolved. The cost of the project so far is almost three times the cost of similar projects implemented by others in Jordan during the same period. There is a need to conduct an external diagnostic study to identify possible actions to successfully implement it.

Water Atlas II has produced a comprehensive and well founded set of water related information. It has been shared by the parties; Turkey, Syria and Iraq and served to initiate a dialogue on possible cooperation. It remains to be seen if it can subsequently lead to real dialogue and cooperation among the parties, a process which also has been significantly affected by the situation in Iraq.

Atlas IIB in Syria has many of the same technical characteristics as the Early Warning System in Jordan, and suffers many of the same technical problems. It will require much of the same process proposed for the Early Warning System in Jordan to be successfully implemented.

The *pilot study in Lebanon* had the potential to facilitate a dialogue in the context of the intended full scale Litani project by being founded on a scientific methodology. Changes in the political scene in Lebanon and a political decision from Norway to not prioritise Lebanon in the portfolio led to its discontinuation. However, a water treatment plant recommended in the pilot study was recently established.

In conclusion, it may be claimed that all projects served to initiate a dialogue with the various parties and served to promote cooperation despite being implemented in a complex and very difficult political environment. Actual outcomes of the projects and the process they were intended to support, however, have been less

than planned and many of the projects have been implemented at a high cost, especially the more investment oriented projects like the Water Monitoring Systems in Jordan and Syria, and Waternet. These projects have received 60 percent of total funding from MFA.

There are many factors that may serve to explain why project outcomes of some projects have been far less than planned. One factor is that activities have been undertaken in an unpredictable and changing political environment. This makes the risk of not achieving intended outputs within the planned time frame very high. Another factor is that MFA reduced funding for them awaiting the outcome of this evaluation.

It may also be explained by CESAR assuming a too ambitious role by attempting to play initiator, facilitator and manager of technical assistance and investment related projects at the same time as being a facilitator, moderator and sometimes mediator in adjoining political processes. This finding is supported by the following observations:

- The larger-scale projects with high cost and significant investment components like Waternet, and water monitoring systems in Jordan and Syria, have not been successfully implemented. Although this can partly be associated with the fact that funding from MFA was significantly reduced or terminated, the projects also suffered significantly because of the lack of an agreed legal framework for their implementation with the beneficiaries.
- These projects are also constrained by a number of technical problems which have still not been resolved despite the high volume of technical assistance from CESAR and their subcontracted consultants. This may be due to the fact that the complexity and size of the projects requires a different management and technical capacity than what can be found in a small research foundation.

From the above, it may be claimed that CESAR has exceeded its level of comparative advantage and core competencies when taking on an additional role as a management company for larger scale investment related projects. CESAR's ambition, when designing the larger scale projects, may have been too high not taking into sufficient account the political climate in the region and its own capacity to implement them.

MFA and CESAR have been the "contracting parties" with limited transparency for the main beneficiaries (the parties in the processes) of what legal and financial framework has been guiding the cooperation. CESAR has been conceived by the parties as someone acting on behalf of the MFA. This is however not unique to MFA's relationship with CESAR. A review of MFA procedures seems to suggest that it is a common procedure also applied when supporting some of the other Norwegian NGOs/consultants working in the region. CESAR, as a facilitator, would itself have benefited from more openness and transparency in its operations.

Another issue is the attempt to facilitate two interlinked processes simultaneously (MWGW and Turkey, Syria and Iraq) without disclosing information between the parties in each process. It has restricted CESAR's ability to conduct its activities in full openness among the parties. This has created a risk of losing the confidence to CESAR by some of the parties.

MFA has been constrained by limited capacity to appraise adequately project proposals submitted for funding, and had limited resources and inadequate procedures to monitor their progress and review their outcomes. As indicated by the parties in the region, they would welcome it if MFA played a more prominent role in the process to ensure projects were implemented as planned and that anticipated outcomes were realised.

In its approach to funding, MFA has provided annual commitments based on annual applications. This has made it difficult to monitor total

resource use per project and maintain an overview of total resource use in the processes it intended to support. It has created an uncertain and difficult environment for CESAR adding to the constraints posed by an unstable political environment. There is a need to have a longer term perspective rather than only a one year perspective.

In terms of CESAR's projects, MFA has to a large extent played the role of financial partner. The strategic vision of what to achieve through its funding, appears to have been first and foremost to maintain a relatively high level of support to the peace process in the aftermath of the Oslo agreement.

The "Norwegian Model" is based on the rationale that Norway as a small nation needs to mobilise NGOs and the private sector to complement its efforts at political level. It appears however that in many cases these NGOs/consultants have ended up in the "driver's seat" of

the processes rather than being used as tools for continued engagement in the region. This may be due to limited direction by the MFA and a lack of clarity in the mandate for the NGOs/consultants. It may also be due to the limited capacity in MFA to monitor the activities and take full advantage of the opportunities created in opening doors to the region through an alternative channel.

The above constraints appear to have been gradually recognised by the MFA. From 1999 onwards more effort by MFA was given to improve reporting, communication and coordination between embassies and MFA. In 2002 a first draft strategy was elaborated to guide Norwegian engagement in water conflict areas and to promote regional cooperation. Further development of these processes may serve to address some of the above mentioned issues.

2 Objective and Scope

2.1 Objective and Scope of the Evaluation

This report presents the outcome of an evaluation undertaken by Nordic Consulting Group (NCG), Norway. The subject for the evaluation has been the activities undertaken in the Middle East by the Norwegian foundation, Centre for Environmental Studies and Resource Management (CESAR). The evaluation has been commissioned by the Royal Ministry of Foreign Affairs, Norway.

The team has consisted of Dr. Elias Salameh – Professor of Hydrogeology and Hydro-chemistry at the University of Jordan, Dr. Jalal Halwani – Professor of Chemistry and Environment at the University of Lebanon, Tripoli, Dr. Erika Weinthal – Lecturer in Political Science at Tel Aviv University in Israel, Fadia Daibes – M.Sc. in Water Resources and PhD in International Water Law, Nordic Consulting Group, Stein Hansen – Senior Economist, Nordic Consulting Group and Jens Claussen – Senior Economist, Nordic Consulting Group (Team Leader).

The main purposes of the evaluation have been:

- To assess the relevance of CESAR's work as part of Norwegian efforts to facilitate the peace process in the Middle East.
- To provide an overview of and assess the financial support to CESAR with reference to projects supported by both the Royal Norwegian Ministry of Foreign Affairs (MFA) and the Norwegian Agency for Development Cooperation (NORAD).
- To make recommendations concerning future Norwegian involvement in the region concerning water issues, including the role of CESAR.

The specific tasks of this evaluation as per the Terms of Reference have been the following:

- Peace-building – To assess CESAR's involvement in the wider context of the Israeli/Palestinian peace process, both multilaterally and bilaterally, focusing on the experience of the stakeholders.
- Cooperation – To assess CESAR's initiatives in the Middle East in the context of other multilateral and bilateral water initiatives, and particularly EXACT, in terms of cooperation and overlap.
- Hydrology/hydrogeology – An assessment of the quality of CESAR's hydrological/hydro-geological work by providing an assessment of multilateral projects (Atlas I, Atlas II and Waternet) and bilateral projects in Jordan, Lebanon and Syria.
- Technical assistance – To assess the contribution of CESAR's water monitoring systems in Syria and Jordan including issues such as sustainability and local ownership. As part of this, an assessment of CESAR's training programs and their skills in project management.
- Cost-efficiency – To assess the cost-efficiency of CESAR's projects.
- Relationship with MFA – Provide an overview and assessment of CESAR's cooperation and communication with the MFA and NORAD including recommendations as to how this can be improved, as well as an assessment of the possible consequences for the MFA of CESAR being sponsored by other states or foreign NGOs.
- Recommendations – To make recommendations regarding future involvement by the MFA in water issues, including the possible future role of CESAR, based upon an analysis which includes peace-building, hydrological/

hydro-geological, and developmental perspectives.

2.2 Approach and Methodology

The evaluation has assessed two main aspects of CESAR's interventions:

- The relevance, efficiency, effectiveness and sustainability of the projects undertaken by CESAR.
- The approach taken by using the projects to facilitate a dialogue to promote cooperation on issues related to water resource management in the region.

In addition the evaluation has assessed the modality of cooperation between CESAR and its main promoter, the Royal Ministry of Foreign Affairs, Norway.

As per the Terms of Reference and as agreed following the presentation of the Inception Report, the evaluation is limited to projects undertaken by CESAR from when it was established in 1995, and only those supported by the MFA and NORAD. In total, funding for these projects accounts for approximately 86 percent of CESAR's total revenue¹. This does not include funding from MFA to WFED of 8.1 million NOK of which some were used for projects later transferred to CESAR². In terms of financial assessments it is covering the period 1995 to 2002 (the last complete fiscal year).

The evaluation has been divided into four phases;

The evaluation commenced in May 2003 with an *inception phase* to map out all relevant activities subject for the evaluation to be presented to MFA. The two Norwegian team members conducted the desk study leading to the Inception Report. This phase was concluded by the presentation and discussion of an *Inception Report*

with an overview of all projects and activities undertaken by CESAR which have been supported by MFA and a detailed workplan for the assignment. In this meeting the project portfolio subject to evaluation was agreed with MFA, and the issue of deviation between projects mentioned in the terms of reference and the actual project portfolio mapped out in the inception phase was resolved. Following the inception phase, the portfolio subject to this evaluation has consisted of the following projects;

- The project producing Water Resource Data for Decision Making in the Middle East (Atlas I) involving Jordan, Israel, and the Palestinian Authority.
- The Regional Comparative Study on Water Law, Water Institutions and Water Supply Economics published in two volumes; Volume I covering Israel, the Palestinian Authority and Jordan, and Volume II covering Syria and Lebanon.
- The computerised library system for water information, Waternet, involving Jordan, Israel and the Palestinian Authority, with a subsequent establishment of a Regional Waternet and Research Centre in Jordan.
- Drafting of a Palestinian Water Law.
- Supply of an Early Warning System (EWS) to Jordan, including development of a water simulation model and a research component.
- Pilot study for a Decision-Making Support System in Lebanon.
- The Water Resource Management project for the Tigris and Euphrates River systems (Atlas II) involving Turkey, Syria and Iraq.

1) Among others CESAR has also received support from the UN and the Norwegian Research Council.

2) WFED initiated and received funding from MFA for Atlas I and the Regional Comparative Studies. These projects were subsequently transferred to and completed by CESAR.

- The Water Quality Monitoring System in Syria (Atlas IIb).
- Strategic Water Management Study in Syria.

In the inception phase a detailed workplan with tasks to be distributed among team members was presented. It also included various formats guiding the team's work including issues to be covered for all projects and general issues related to assessment of CESAR's role as facilitator, project manager and cooperation between MFA and CESAR. To ensure a harmonised process in obtaining inputs, guiding the consultations with main stakeholders and analysing documentation, various formats and guidelines were produced.

Following the inception phase three separate *missions* were undertaken; one to Israel, the Palestinian Territories and Jordan; one to Lebanon and Syria and; one to Washington DC. The two Norwegian team members covered each of the missions to the Middle East and in each country/territories, they were joined by the respective national team member. The team leader conducted the mission to Washington DC for consultations with the US State Department, US Geological Surveys, World Bank and World Foundation for Environment and Development (WFED). Team members in the region were the focal points for the field visits of the full team and the process was coordinated closely with the relevant Norwegian Embassies as a means of acquiring additional input and quality assurance.

During the missions consultations were held with relevant stakeholders and also with resource persons who have not directly benefited from and/or participated in the projects, but have substantial knowledge of the issues from a national and regional perspective. In addition several consultations have been held in Norway with various persons related to the processes CESAR have been involved in.

The team members produced minutes from all the meetings and summary memos from docu-

ment reviews. They are not published with this report but have been used as references in the process of final analysis.

The *Analysis and Implementation phase* commenced in August 2003 in which the team consisting of international and regional experts jointly merged inputs for analysis of main findings and developed recommendations. The information and documentation collected have been distributed among the team members according to the tasks assigned to each (ref. Inception report). Given the "multilateral" nature of the assignment and the national and regional perspectives which may influence the findings, a two day joint team workshop was held in Amman in September 2003 to discuss main findings, conclusions and recommendations. This process added significant value to the understanding of the role CESAR and Norway has played from a "regional perspective".

Based on written inputs from team members a *draft report* was submitted to MFA. Following comments to the report from MFA and CESAR, this final report has been produced taking into consideration the comments received.

The report presents the findings related to each project assessed in relation to the tasks listed in the Terms of Reference. It presents an assessment of the role CESAR has played in facilitating dialogue to promote regional cooperation and recommendations for MFA in terms of the future cooperation with institutions like CESAR in promoting regional cooperation on water issues.

As the outcome of an external independent evaluation, the report reflects the outcome as presented to the team by the intended main beneficiaries of the projects and the processes CESAR has facilitated i.e. representatives of the parties in the region. In terms of planned physical outputs, the team has reviewed the quantity, quality and cost from technical, institutional and financial perspectives. In addition, several consultations have been held with other resource persons in the region familiar with the political process and the projects CESAR has been

engaged in, as added quality assurance for the evaluation process. Finally, the regional team members themselves represent resource persons in the region with comprehensive knowledge of the issues subject for the evaluation in areas such as hydrology, hydro-geology, water law and institutions and facilitation, mediation and conflict resolution related to transboundary water issues.

It is important to keep in mind the political and historic context in which the activities subject to this evaluation have been implemented. The process facilitated and projects implemented have been continuously affected by a very difficult and unpredictable political environment with requirements for frequent changes in approach to overcome constraints in implementation. Even to maintain the required dialogue between the parties in order to proceed with various activities has often posed a challenge far beyond what could be initially foreseen. This is a feature which has characterised all externally supported processes in this region attempting to promote dialogue among the various parties. This may serve to explain why there are few, if any attempts to facilitate transboundary cooperation in the region, that show outcomes as initially planned.

2.3 Management of Information

Confidentiality has been a major issue brought into the discussion of approach and methodology for the evaluation even after the evaluation was commissioned. Although the discussions somehow sought to restrict the flow of information within the team, NCG has fully recognised the terms on how information was to be managed since only the two Norwegian team members had security clearance from the Norwegian government. There are three main issues which have guided the approach and methodology

throughout the evaluation (guiding principles in all evaluations NCG undertakes):

- Client confidence – all information shared within the team is and has throughout the evaluation been considered as information under the ownership of the client (MFA) including all reports and written inputs produced.
- CESAR as a private foundation can restrict information under the auspices of client confidence and privileges. Accordingly, all information shared by CESAR with NCG has been managed for the purpose of this evaluation only and only shared with MFA through this evaluation report.
- Some information from the MFA has been classified information restricting distribution within the team. This information has only been assessed and shared between the two Norwegian team members authorised to have access to the information.

It is important to keep in mind that in terms of the documentation reviewed, a significant share of the information in the form of reports, memos and minutes is public information in the region even though it may have been classified internally in MFA and/or CESAR as restricted or confidential. In this case the important issue for the team has been who the *source is* that is making information public. Accordingly, even in cases where information has been publicly available in the region but classified as confidential by CESAR and/or MFA, it has been the latter that has been guiding the process on how information has been managed internally by the team.

3 Background

The Chairman and Director of CESAR, Prof. Jon Martin Trondalen, initially established a US based foundation called the World Foundation for Environment and Development (WFED) with offices in Washington D.C and Oslo. In his previous position in the World Bank he had established links to various institutions supporting projects to address regional conflict situations. Following this position WFED produced the publication “International Environmental Conflict Resolution – the role of the United Nations” (1992) for the UN and other sponsors. The publication was widely distributed and created substantial attention in terms of the role multilateral agencies could play in the area of conflict resolution related to natural resources and environment. The study led to new project activities for WFED, for among others the United Nations Environment Program (UNEP) and United Nations Institute for Training and Research (UNITAR).

A series of events followed which introduced WFED to the Middle East:

One event was the contract awarded by the UN to WFED to elaborate a training programme in conflict management implemented in Jerusalem in 1992 for the Palestinian Negotiating Team.

Another was related to the follow up of the Madrid Peace Conference in 1991 where a vision for the Middle East was articulated. The Madrid Conference launched the formation of a multilateral framework to address a number of issues in the Middle East, one of them being regional water issues. In 1992 the Multilateral Working Group on Water Resources (MWGW) had its first in a series of meetings in which the Government of Norway was participating.

Simultaneously, the Oslo process took place and gradually placed Norway at the centre of attention in the peace process. When WFED then introduced its work for the first time to the

political leadership of MFA in 1992 it was welcomed for several reasons;

- WFED worked on issues considered highly relevant to the process in the Middle East and considered as relevant input to the follow up of the Oslo process as well as relevant input to the MWGW in which Norway was participating. Subsequently the MFA introduced WFED to the MWGW.
- The political leadership of MFA at that time promoted the “Norwegian model” as the approach to be taken by a small actor like Norway to complement Government efforts. MFA’s capacity was considered too limited to respond with required resources to support and maintain the level of attention Norway had been given in the Middle East through the “Oslo process”. Support to WFED was seen as an opportunity to complement other Norwegian efforts.
- At that time the main Norwegian player in the field in the “Oslo process” had been FAFO with its links to the Norwegian Labour Government, Party and Union. By bringing in others into the field the MFA could open additional channels for dialogue with the parties in the region.

All the above factors made WFED enter the scene in the Middle East during a time when several events in the region and internal processes in the MFA made WFED seem a highly relevant research foundation and technical assistance provider.

In 1995, the foundation CESAR was established in Oslo, Norway. The portfolio of projects in the WFED Oslo office including the Middle East projects was transferred to CESAR. This was done in order to distance the Middle East activ-

ities from the USA foundation for the purpose of integrity due to the political climate in the region. As an Oslo based foundation CESAR continued the projects established under the framework of the MWGW (Water Atlas I and the Regional Comparative Studies). Since then CESAR's portfolio has expanded both in volume and regional outreach gradually including Syria, Iraq and Turkey under the framework of the Atlas II project.

According to the articles of association CESAR was established for the purposes of:

- Promoting reconciliation, preventing escalation of conflict, and to work towards the resolution of national, and international resource and environmental conflicts.
- Stimulating initiatives aiming to balance the need for social and economic development with sustainable resource management.
- Fostering co-operation between participants in conflict – specialising in cases where national governments and international organisations are involved.

The main profile CESAR is promoting is the combined role as a technical and scientific advisor in a complex policy environment. The model applied has been to engage governments by having them agree on various “scientific” processes. The outcome of these processes may provide information for decision-making which subsequently can form the basis for an agreement on principles and practices for cooperation in management of joint resources.

CESAR's approach has sometimes been labelled “track-one” (Government mediator between Governments) and sometimes “track-two” (civil society organisations like NGOs of one country working with NGOs in conflict areas to influence political processes). In the Middle East CESAR's approach has been a combination of both. With government funding from Norway, CESAR's interventions have

been seen as a contribution by the Norwegian government (MFA) in which CESAR (a private foundation) has engaged the parties (Governments) in processes under the label of science. Even though CESAR is a private independent foundation it has been seen as a Norwegian Government contribution working with the parties to maintain a dialogue around various water related issues in an attempt to bring them closer to agreement on joint management of shared water resources.

In terms of its activities subject to this review, CESAR has in reality been playing many different roles; from being a facilitator and sometimes mediator to “broker” in information and even manager of regular investment projects. As a small private research foundation established in 1995 with only a few small scale research activities, it has gradually expanded its activities and staff to also manage and implement by means of outsourcing, more investment related projects (e.g. in Syria and Jordan) like a larger scale engineering company. From a handful of smaller research and facilitation projects in 1995 with a total revenue of 3.4 million NOK, CESAR's portfolio reached its peak in 1999 with larger scale investments projects with total revenue of 29.3 million NOK.

This evaluation was commissioned as the first external evaluation of CESAR's activities. At present, new proposals submitted by CESAR to MFA have been put on hold until the evaluation is finalised. Because of this, CESAR had to scale down its level of activity from 2001 and even transferred some activities to a new foundation in Switzerland, COMPASS, established and managed by the same main founders of CESAR with projects funded among others by the Swiss Government and the United Nations.

4 Overview of CESAR Activities in the Middle East

In the Middle East CESAR has played or attempted to play a role related to three sets of water problems (ref. Annex V for a more detailed presentation);

- The first involves the Jordan and Yarmuk River systems, as well as the West Bank and Gaza aquifers. Countries involved include Jordan, Israel, Syria, Lebanon, and the Palestinian Territories. The major issues are water flow and diversion, and ownership of water sources.
- The second involves the Tigris and Euphrates River systems, with Syria, Turkey and Iraq playing roles in issues such as reduced water flow, constraints on irrigation, and hydropower.
- The third involves the Litani River Basin in Lebanon, which is indirectly related to the Jordan River Basin.

The projects and activities that have been supported by the Norwegian Government in the Middle East are;

- Projects initially under the framework of the MWGW with participation by and focus on Israel, PA and Jordan but with continued attempts to bring Syria and Lebanon into the process. The main projects under this heading are Atlas I (not formally adopted under the framework of MWGW), the Regional Comparative Study covering Israel, PA and Jordan (Vol. I), and Syria and Lebanon (Vol. II), Waternet which currently involves Israel, PA and Jordan, and the Regional Water Centre which is under development based in Amman.*

- A separate initiative related to Lebanon*, which did not receive additional funding after the initial pilot study.
- A project to establish an Early Warning System for Jordan following a specific request from Jordan related to problems of water supply to Amman through the King Abdullah Canal.
- Initiatives to open a dialogue with Syria as an attempt to bring Syria closer to the work of the MWGW and also engaging them in a process to promote dialogue between Turkey, Syria and Iraq on the Tigris and Euphrates River systems (Atlas II), the supply of a Water Monitoring System for Syria (Atlas IIb) and a study to assist Syria in developing its water management system.

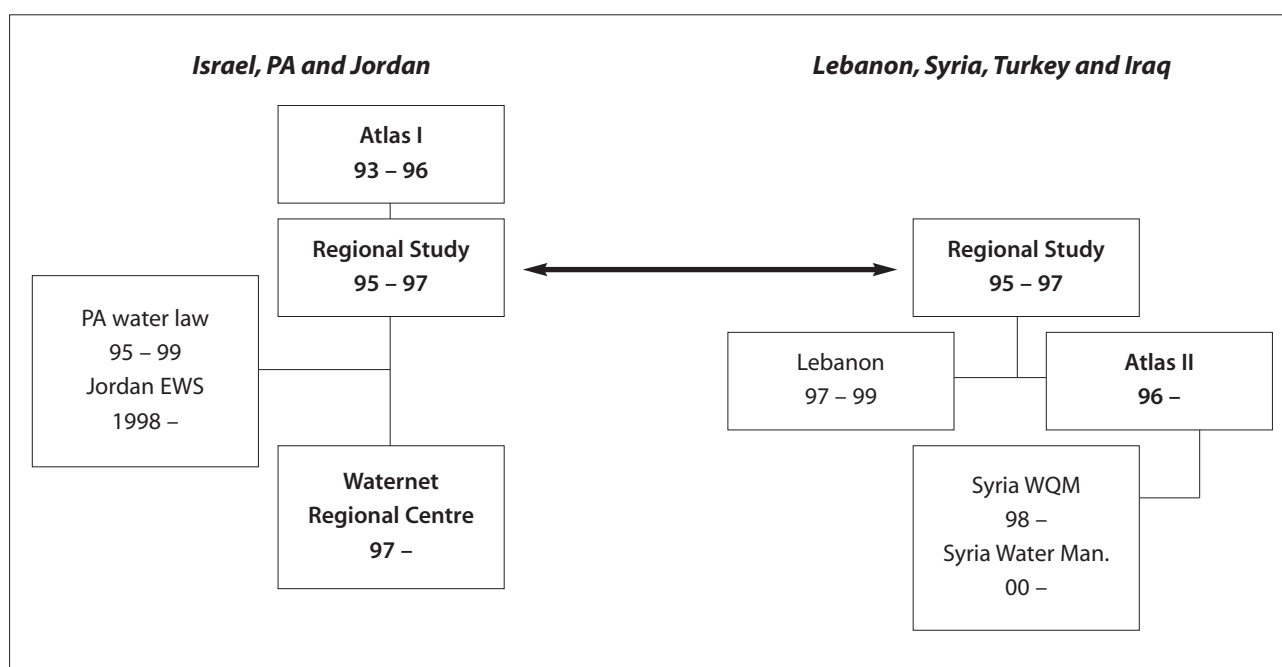
The point of departure for support by MFA to CESAR was the Atlas I – a project introduced by CESAR to the parties in the MWGW-process. The Regional Comparative Study was an attempt to bring also Syria and Lebanon into this process, but Israel's public announcement of a joint meeting between the five parties made such cooperation with Syria and Lebanon in the context of MWGW come to a halt.** The Lebanon study was concluded as a pilot study with no additional follow up. The project in Syria developed into other projects related to another set of water issues, the Euphrates and Tigris. Thus the portfolio developed into a set of projects serving two separate water resource issues.*

The above portfolios of projects and processes they have contributed to are illustrated in figure 4.1.

*) Part of sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

**) Sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

Figure 4.1 Multilateral and bilateral projects undertaken by CESAR (and WFED) with support from MFA and NORAD 1993 – 1996.



In the illustration above the boxes with project names in bold signify projects undertaken in a multilateral process while the others are bilateral projects which in most cases have been results of the proceeding working relationship in the multilateral process (like PA Water Law and Lebanon study). The key process in bringing all five parties together was related to the regional comparative study. It did, for various political reasons, not succeed in maintaining all five parties on board although the process resulted in the Declaration of Principles on Water-related Matters and New and Additional Water Resources (DOP) in 1996 between three of the parties (Israel, PA and Jordan). With an already established working relationship with Syria, CESAR engaged in a new multilateral

process through Atlas II with Syria, Turkey and Iraq in which Syria was the key entry point and with which additional bilateral projects were undertaken.

In total the above projects have received 79.1 million NOK excluding the 8.1 million NOK in funding to WFED some of which was used for the projects transferred to CESAR in 1995 (Atlas I and Regional Comparative Study). Project receipts from MFA and NORAD to CESAR for these projects has constituted 86 percent of CESAR's total revenue during 1995 – 2002 with 75.4 million NOK from MFA and 3.7 million NOK from NORAD (Palestinian Water Law). The funding per project is presented in table 4.1 below.

Table 4.1 – Total funding 1995 – 2002 from MFA and NORAD in million NOK³

Project	Total funding	Percent of total
Atlas I	0.6 ⁴	0.7
Regional Comparative Study	0.3 ⁵	0.4
The process leading to DoP	3.7	4.7
Waternet	21.8	27.6
PA Water Law	3.2	4.0
Early Warning System Jordan	19.3	24.4
Pilot study Lebanon	3.1	4.0
Atlas II	18.8	23.8
Water Quality Mon. Syria (Atlas IIb)	6.0	7.6
Syria Bilateral Study on Water Man.	2.2	2.8
Total funding	79.1	100.0

In financial terms the three largest projects (Waternet, Early Warning System, and Atlas II) received 76 percent of total funding from MFA and NORAD to CESAR in the period 1995 – 2002.

The largest cost component has been technical assistance, from CESAR's internal staff and sub-contracted consultants, accounting for 69 percent of total cost (a total of 17 million NOK for CESAR's staff and 40 million NOK for sub-contracted consultants). Other major cost components have been equipment such as water quality monitoring systems (9 million NOK) and travel expenditures for CESAR's staff, consultants and for various meetings of project steering committees etc. (7 million NOK).

The composition of these inputs reflects a portfolio of significant technical assistance input both for supervision of investment type projects, for installation and operation of equipment supplied, training of local staff and for numerous meetings and visits to initiate and maintain a dialogue with the parties supported as well as for collection of data.

In the following each of the projects is presented and assessed based on their relevance and effectiveness in relation to the objectives, their efficiency in implementation and their financial sustainability and the ability of the beneficiaries to sustain project outcomes. An overview and summary of the project assessments are provided in Annex IV.

3) Source: MFA, NORAD and CESAR. The figure does not include the funding received by WFED for some of the same projects prior to establishing and transferring projects to CESAR (Atlas I and Regional Comparative Study). In total WFED received some 8.1 million NOK from MFA.

4) Most of the funding received by WFED, the figure only includes funding to CESAR for finalisation of the project.

5) Most of the funding received by WFED, the figure only includes funding to CESAR for finalisation of the project.

5 Assessment of Projects

5.1 Water Resource Data for Decision Making in the Middle East (Atlas I)

5.1.1 Project background and description

The Water Atlas was the first initiative by WFED (later CESAR) with the joint participation of the three Core Parties of MWGW; Israel, the Palestinian Authority and Jordan. It started implementation as early as 1993 when WFED introduced the concept of bringing water data by a third party as an opportunity to promote dialogue on management of shared water resources.

The rationale for commissioning the Water Atlas was that the stakeholders held different information about their joint water resources with significant variation in quality between the parties. The stakeholders, moreover, recognized that the Palestinian Authority in contrast to the Israelis and the Jordanians, lacked detailed information about their water resources. Thus, in order to rectify the imbalance among the parties, the Water Atlas was intended to provide an unbiased source of information concerning their shared water resources. The aim was to collect all available data in a written form so that eventually an agreement on the data to be used for regional purposes could be reached.

Besides aiding the Palestinian Water Authority in building a comprehensive water database, the data collected was supposed to contribute to the Regional Data Bank under the Multilateral Peace Talks on Water.

The Water Atlas followed an attempt by the Norwegians to create a regional water charter, which the Israelis (along with others) had rejected. Instead, they focused on the Water Atlas as a first step in promoting cooperation.

The Water Atlas is a comprehensive data base of historic, scientific, technical, legal, and economic literature (occupying some 850 pages)

regarding water resources and related issues of Israeli, Jordanian, and Palestinian interests. This database was provided to the participating regional parties to use as a tool to facilitate future discussions and activities.

The Water Atlas consists of text, graphs, tables, and maps. Volume 1 provides an overview of the Water Atlas including the justification for compiling a Water Atlas and the methods used for data collection. Volume 2 consists of the bulk of the Water Atlas, which is a compilation of graphs reflecting various references for water resources data. Volume 3 provides additional information concerning the sources for the information presented in Volume 2. A CD-ROM version was also produced with an interactive tool to access data through maps (Geographical Information System – GIS).

The project was developed by the use of students from the University of Oslo assisting in the collection, compilation and presentation of data. All information collected was publicly available, first and foremost in Israel and Jordan since limited information was available at that time in the Palestinian Territories (except one university and some NGOs).

5.1.2 Main findings from project assessment

Expectations as to the contribution of this Atlas were unevenly distributed among the parties. In retrospect none of the parties have given much attention to the final product. On the one side, Israel did not make any vital data available concerning water resources in the region and the Palestinian Territories. On the other side the Palestinians had expectations that this process would provide them with access to the information that Israel holds. After presentation to the parties the Atlas was not widely distributed or used. Only a few copies of the Atlas are to be found in relevant institutions and organizations in the region, and within them, an even smaller number is aware of its existence.

The Water Atlas is not a scientific tool. All the information in the publication was already available to the parties and the public. It is however, an informative tool in as much as it presents available sources of information in one comprehensive publication.

However, there are numerous problems with the way in which the data was compiled and presented in the Water Atlas, contributing to its lack of user friendliness. These problems include weaknesses in data selection and organisation, and the limited contribution to reducing information asymmetries among the parties.

The Water Atlas draws upon public (i.e. open) sources of information. While one of the main purposes of the Atlas was to provide the Palestinian Water Authority with reliable data on water resources, the Atlas only provides a partial survey of the scientific literature available to any policy-maker or scientist with access to a university library server. Most of the data presented in the Atlas consists of secondary sources rather than primary scientific studies, which would have been more useful in assisting the Palestinian Water Authority to improve its water resources database.

Although Chapter 3 in Volume 1 is devoted to explaining data selection and collection methods, there is no real justification for why they chose to rely upon the literature presented in the Atlas. Because most of the data was generated from basic search engines, much of the scientific and government studies that could have filled the gap in the Palestinian database were not included.

One of the main problems of the Atlas is the use of articles from the social sciences and law for providing the basis for the graphs in Volume II. Although these articles (e.g. Dillman, Lowi, Kliot, Dellapena, Wolf, Starr) all include scientific data, this data is garnered from other primary sources. Moreover, the fact that Volume II does not explain from where the secondary sources are derived from, does not allow the user to know if the information provided is from a reliable source. As a result, the user must turn

to Volume III to see from where the data is derived. Yet, Volume III does not follow the same outline as Volume II, which results in a cumbersome process to locate the source of the data presented in Volume II. In many instances, no primary source is listed. It would have been more appropriate to present the original sources for data on annual water deficit and total annual water supply, for example, rather than relying upon secondary sources.

Another problem with the Water Atlas is the fact that there is no evaluation or interpretation of the data in any of the volumes. While this may be because CESAR sought to remain neutral and not to be involved in interpreting the water data, the lack of data evaluation can result in many misrepresentations of the data.

According to the parties, there was a clear justification for the Water Atlas since the Palestinian Water Authority was requesting water data. While the Water Atlas has provided a step to bring the parties together in a multi-lateral process which has subsequently paved the way for future interactions, it did not contribute to the parties engaging in a real exchange of information.

The Water Atlas was intended as a tool in decision-making, but everyone interviewed confirmed that the Atlas was never used since it could not help anyone to determine actual water data and validate actual information provided. It only contributed to help people to become aware of different opinions in the academic literature.

In sum, while the Atlas can be viewed as a confidence building measure between the parties at this early stage, it has not had any real impact upon the process largely because of the lack of sharing data. In trying to be a neutral third party, CESAR never provided an assessment of the data, and as a result, it left to the parties to decide what information is authoritative and reliable. This contrasts with the traditional role of a third party to bring new information to the table in order to shift the information asymmetries among the parties.

5.2 The Regional Comparative Studies

5.2.1 Project background and description

The Regional Comparative Studies on Water Laws, Water Institutions and Water Economics were produced in two volumes in two parallel processes; Volume I covering Israel, the Palestinian Authority and the Hashemite Kingdom of Jordan, and Volume II covering Lebanon and Syria. The separation of the processes was due to the fact that, politically, Syria and Lebanon did not want to be part of a process involving Israel. At the same time, running the processes in parallel was done as an attempt to bring the parties closer to a joint process and dialogue in the future.

The rationale for undertaking the comparative regional study was “to allow the parties to have proper understanding about the other parties’ water resources and management which focused on the water laws, institutions and water supply and economics”. The purposes behind commissioning these reports were (1) to improve the parties’ understanding of each others’ water management systems and practice; (2) to identify common denominators among the various water management systems as a basis for future cooperation; (3) to provide a background study and input for a future harmonisation of the water laws in the region and (4) to contribute to the formulation of a legal framework for the Palestinian Authority. The study was not intended as a mere academic initiative but more importantly as a process to promote cooperation with political implications and consequences.

5.2.2 Main findings from project assessment

The studies had a unique value as they were the first of their kind to compile and collect relevant information and data on water laws, institutions and economics in the region. Therefore, the objective concerning improving the understanding of each party of the management practices of the other was fulfilled.

As for the second objective concerning the common denominators, the following comments can be made:

The denominators that were identified to be common to the Parties are the basic elements of a water resources management and regulation system. The first question is whether or not these were actually the outcome of the comparative studies as was stated in the study reports, or whether they were previously designed and agreed upon? The second question, which also poses itself, is whether or not there was a need for a mediator to come out with these denominators?

If the purpose was, as the project title indicates, to compare water laws between all parties, including the Palestinian Authority, for the purpose of harmonisation, the setting and the timing of conducting it can be claimed to have been pre-mature. This is based on the fact that in “normal” situations, i.e. situations when the legal systems for the development, conservation and utilisation of the water resources are in place, the identification of common denominators and differences among the parties’ legislation and practices is meaningful. The aim of such an analysis is normally to outline major elements for the harmonisation of laws and regulations among the Parties. However, at the time of the study, the Palestinian water legislation and institutions were practically absent with many years without control or administration of the water resources and institutions by the Palestinians. The reference in the study to the Ottoman and Islamic law for the analysis was incomplete since in practice – as far as water resources in the Palestinian Territories were concerned – the Israeli Military Orders were effectively in control.

Concerning possible use of the comparative studies for future harmonisation of laws and regulations and given the political sensitivities,

it can be questioned whether the study has achieved this objective. Harmonisation is only realistic when preparatory work has already been accomplished.⁶ This work includes the study of laws and regulations in many parts of the region in order to outline the principles and considerations that should be harmonised. The comparative study did not adequately fulfil the objectives of this preparatory work. Additionally, in situations where the countries belonging to an international basin have existing water codes or other national legislation or regulations applicable to the development, conservation or use of the waters of their individual portions of the basin or system, then agreement may be reached formally or informally to bring existing laws into essential harmony with each other. In the context of this study a comparison was conducted between three Parties, one of which (Palestinian Authority) had practically no effective legal system over their water resources and another (Israel) had all legal and administrative tools effective and in place.

Accordingly the process would have benefited from a study of “best practice” in similar regions of the world relating to the utilisation, development and management of water resources to precede the comparative study. Once such “best practice” is identified it would become more conducive to the Parties to conduct a comparative study which compares the three Parties’ practices with the “best practice”. Such a study would have been more conducive in promoting a dialogue on key issues related to inequality and political complexity in the region.

As for the fourth objective which concerns laying the foundation for a legal framework for the Palestinian Authority Water Law, this will be discussed under the assessment of the bilateral project; Palestinian Water Law.

The report presents the Israeli regulation model as the best practice for water resources regulation with a minimum analysis of the problems, challenges and issues facing the Israeli government in this regard. One problem in Israel, not reflected in the study, concerns the multiple number of institutions involved in decision-making. Another is the eternal problem of water subsidies for the farmers which constitute a major economic burden on the Israeli government as revealed in the Israeli Comptroller report of 1990. The report indicates that efficiency is low in quota allocation and regulations have long encouraged waste of water. Furthermore, it is claimed that the main guidelines of Israeli water policy have consisted of under pricing, distorted and discriminatory pricing, and gross misallocation among water users.

The setting within which the study was conducted for Lebanon and Syria is different as the study had no political implications. It was presented as an academic study that aims to provide the international scientific and academic community with an overview over the different juridical systems and institutional arrangements related to water management including legal issues. The study provides the necessary information on the management systems and regulation practices in both countries.

The studies laid the foundation for the Declaration of Principles for Cooperation on Water-related Matters and New and Additional Water Resources (DOP) between three of the parties (Israelis, Palestinians and Jordanians). They were also used as a basis for trying to bring Lebanon and Syria into the multilateral process. Even though the latter only materialised at one technical level meeting it might have succeeded if not Israel had made its existence known publicly for political reasons.

6) The Economic and Social Commission for Asia and the Pacific (ESCAP) (former Economic Commission for Asia and the Far East (ECAFE)) had done such preparatory work in 1967. A survey of laws and regulations in 19 countries in the ESCAP was conducted. One of the recommendations made by the working group was that ESCAP, in cooperation with the countries concerned, United Nations Headquarters and appropriate international organisations, might undertake as the next stage of its work, the preparation of a manual for the drafting of a water code based on the principles and considerations outlined in the comparative study. See generally The Economic Commission for Asia and the Far East, Water Legislation in Asia and the Far East, part I, Water Resources Series No. 31 and part II, Water Resources Series No. 35.

5.3 The Declaration of Principles

The Declaration of Principles for Cooperation on Water-related Matters and New and Additional Water Resources (DOP) was signed by the three parties in 1996. According to representatives of these parties this was a result of efforts by the political leadership of Norway that through CESAR strongly advocated the need to show tangible outputs from the MWGW process. As such they promoted the elaboration and signing of the DOP (just as other donors to the MWGW process advocated formal agreements and/or joint statements as outcome of projects they funded).

The DOP focuses on new and additional water resources while maintaining current utilisations. This has been claimed by some of the parties to be a major weakness of the DOP in as much as it serves then to maintain regional political imbalances. On the substantive level, the DOP does not include any reference to the fundamental principle governing the international watercourses, namely on the issue of water allocation and the relevance of equitable and reasonable utilisation principle. This weakens the DOP as it limits the scope of its application. Even though the DOP among the parties is seen more as a wish from Norway to have something to show as a contribution to follow up the Oslo process, it gave Israel an opportunity to show publicly that they are party to a political process with first and foremost Palestinians.

The expansion of the scope of the same declaration is envisaged as a crucial and vital step that expresses a genuine intention of the Parties to undertake cooperation. The Core Parties confirmed that the DOP will not affect or alter in any form or manner, the bilateral or other agreements or undertakings among them. Nor does it prohibit or constrain any bilateral arrangements, understandings or agreements aimed at enhancing cooperation in water-related matters. This latter confirmation is crucial for the Parties as cooperation on new and additional water resources are considered to be one out of many aspects in the field of coopera-

tion. The Palestinians, for example, confirm that priority in this area is to achieve cooperation on all shared water resources, including new and additional resources. As such the DOP elaborated a mechanism for cooperation even though it was not legally binding. The Waternet and Regional Waternet and Research Centre are a direct consequence of the DOP.

The total amount received from MFA and allocated to this process has been 3.7 million NOK according to information from CESAR.

5.4 The Waternet

5.4.1 Project background and description

As part of the DOP, the parties agreed to cooperate on the development of new and additional water resources and other matters related to cooperation on water resources, including the "collection, filing, processing, transmission and exchange of water data and related information" (Part III, 2.1). Subsequently, in 1996 the Multilateral Working Group agreed to implement the Waternet Project, which was sponsored by the Norwegian government with CESAR as the project holder and manager. This is considered to be the first joint initiative to implement and give content to the Declaration of Principles.

The premise underlying Waternet was to address the desire by the parties (i.e. the Palestinians, in particular) to facilitate an exchange of information on existing and new water resources between Israel, the Palestinian Authority and Jordan. In short, Waternet is designed to enhance Middle East cooperation on water related issues through finding a technical solution for sharing information related to politically sensitive issues.

The sharing of water data and related information is essential for effective cooperation to take place on internationally shared resources. Since the signing of the Oslo Accord, water cooperation has been hindered by the asymmetry of information among the parties (on the one side it is an abundance of data and information on

the Israeli side, on the other, a paucity of data and information on the Palestinian side).*

According to the Terms of Reference, the objectives of Waternet include the following:

1. To develop a computerised information system for water related issues and to implement the system in each of the parties.
2. A tool for promoting regional cooperation. Waternet is supposed to create the basis for future negotiations by providing a baseline of information.
3. Should be a tool for water resource specialists in their daily work and research.

As such, Waternet has three main components:

1. Waternet Local is intended to assist the parties to develop a common information system for water-related matters.
2. Regional Waternet is intended to link together the parties' local nodes to establish a shared regional computer information network.
3. Research Centre in Amman is supposed to develop and maintain Waternet and to stimulate cooperation on water-related matters.

The first phase of Waternet involved setting up the local nodes (i.e. Waternet Local).**

5.4.2 Main findings from project assessment

The Israeli Waternet Local is the only local network that is still uploading information and that has a connection that functions between all the national nodes. At the Geological Survey, they have uploaded approximately 16,000 records in the database since December 1998.

CESAR has provided financial resources for the different research institutions to hire contractors to carry out translations of abstracts and data entry. Moreover, CESAR has provided technical back up to maintain the Israeli system, and as a result, the Israeli team has found CESAR's facilitation to be "excellent."

The value-added of this project for the Israelis was to provide them with an opportunity to translate abstracts (i.e. not full papers) of various reports into English. They were able to concentrate all their previously unpublished papers into one network. Most of the information on these nodes is not available elsewhere, in particular the hydrological service reports.

In the Palestinian Authority, Waternet Local was operational for a brief period. Yet, since 2001, the national nodes have ceased to function because of technical problems, which the local parties have been unable to resolve. As a result, the repairs have required that the Norwegian experts from CESAR visit the Palestinian Authority, but this visit for technical back up has not transpired. The Palestinian Water Authority understood that this visit was being postponed because of the political situation.

While the Palestinian Authority hoped to gain access to Israeli data, they have been unable to gain access to information regarding Israel's water resource data except for the brief period when the regional node was tested. Thus, to date, there has been very little value-added from Waternet for the Palestinians given that it is not operating locally or regionally, and accordingly, the Palestinians cannot access Israeli or Jordanian data. In terms of Jordan however, the Palestinians have been able to access information and provided copies of publications by frequent visits to the Jordanian Water Authorities and as such bypassed the need for Waternet (they both have reports published in Arabic and English and subsequently

*) Sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

***) Paragraph deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

not the same need for translated abstracts to review the content of reports as they would with reports produced and published in Hebrew in Israel).

Jordan sought to use the Waternet project to make relevant water information electronically available to local users and to receive information from its neighbours concerning water planning uses and new research developments. In Jordan the number of entries made is estimated at 1200. During the last few years, Waternet has not been functioning due to a breakdown of the main server in the Ministry of Water and Irrigation (MoWI). The Ministry has been unable to resolve this problem because they do not possess the password to the computer, which is with a CESAR consultant that they cannot reach. Unlike in Israel, they have not received the same level of technical support to maintain the system.

The regional link has only been tested, but has never been operational. The regional net is closed for political reasons; primarily due to the *Intifada* (although some claim the line was closed due to lack of funding by CESAR for the cost of the subscription). Yet, even if it was opened, it would not function since the networks in the Palestinian Authority and Jordan are not operational. Thus, the Waternet project has so far not served as a tool for exchange of information. Further developments or attempts to reactivate it have been put on hold since there are no additional financial resources available for CESAR or others to continue the project.

Although there is clearly a need for reliable, accurate and relevant data, the quality of the data in the system is an issue. The project left it to the discretion of the parties to decide on what reports, studies, and documents to share with the other parties. Most of the information available in the Waternet Local is drawn from the public domain unless otherwise noted. At each node, they also collect so called "grey material" – that is, information that is not published elsewhere such as consultancy reports and studies commissioned by ministries, other public institutions and NGOs. As with the Water

Atlas, the parties were then left to interpret the data made available without any standards or criteria to evaluate the quality of these shared data. The level of translation varies between the parties since only the Israeli team has received funds for professional translation. Overall, the lack of quality assurance is problematic for the Palestinian Authority, which requires reliable and accurate data to help it develop its Palestinian Water Authority and to negotiate on a level-playing field with Israel.

At present, Waternet is using Novelle 5.1/Windows NT4 and GroupWise. At the time of initiating the project this software was appropriate and was used as a regular network solution globally. Today, however, the software must be considered outdated, cumbersome and costly to maintain. For Waternet to function properly the software needs to be redesigned and reactivated to be operational and the hardware needs full upgrading to use more modern software solutions, if developed.

Overall, the project has not proven to be sustainable or institutionalised for several reasons.

Firstly, the project has been completely dependent upon funding from Norway managed by CESAR. There are no local budgets or resources committed to maintaining the local databases if CESAR ceases its activities. Thus, even though the parties have expressed their desire to maintain Waternet, the parties do not have the funding available to reactivate and maintain the project.

Secondly, even in Israel where the system is functioning locally, there is no incentive on the part of the government to take over the system because Israel does not need the information.

Thirdly, the way the project was implemented has not promoted its sustainability. For example, the Palestinian Water Authority has pointed out that CESAR limited the Palestinian input into the project by not sub-contracting national consultants and suppliers to operate the project. As a result, when technical problems arose, they were completely dependent upon CESAR's

consultants. Similarly, in Jordan maintenance could not be carried out because CESAR did not entrust the access password to the system to the Jordanian partners. Since the CESAR person responsible for its set-up is no longer with CESAR, the Jordanians nodes have not been maintained.

While the technical merit of the project is mixed, Waternet was supposed to contribute to the process of sharing water related information among the parties. But because the three nodes (Israel, PA and Jordan) are still locked and not operational in Jordan and PA, Waternet has so far failed to meet this objective. Overall, the parties cannot share information although they had previously tested the system. Only the steering committee can decide to open the lock. Thus, the contribution to promoting regional water cooperation has yet to be tested. This also has implications for the ability of the Research Centre in Amman to carry out its designated tasks.*

While the overall objective of Waternet was to foster cooperation, the different parties sought to reap different benefits from the project. The Palestinians sought cooperation with Israel in order to gain access to information from Israel on water related matters. There was less need on the part of the Palestinians to seek cooperation with Jordan because representatives from the Palestinian Authority had already visited Jordan on several occasions and had unrestricted access to reports. Israel did not need to foster regional cooperation to gain access to information. Rather, Israel sought to reap political benefits from being part of a multilateral peace process. Similarly, Jordan had less interest in water cooperation since it had access to Israeli information through other channels.

5.5 The Regional Water and Research Centre

The Water Research Centre was supposed to strengthen cooperation in the field of water, to maintain the water nets and to initiate joint water activities in the region.

The parties agreed through the Waternet to make relevant water information electronically available for local uses, to receive information from neighbouring countries for planning uses, to have access to new experience and to develop its research and study capabilities.

The Regional Water Centre has yet to be fully established and subsequently it is too early to draw any conclusions as to its success in meeting its objectives. However, for the regional centre to function as intended it requires that the Waternet project is reactivated, that national networks are fully established with all parties and linked through a regional server. With a well developed business plan and a Waternet reactivated, the Centre will have an opportunity to serve as the first institutionalised cooperation among the three parties.

The financial sustainability of the centre when fully incorporated, has however yet to be resolved. At present there are no state budget allocations formally approved in the Government budgets of the respective parties for the operation and maintenance of the centre.

5.6 Water Atlas Turkey, Syria and Iraq (Atlas II)

5.6.1 Project background and description

This trilateral Atlas II-project started with the Syria-focused Euphrates initiative of 1996/97, linked to the water conflicts between Turkey, Syria and Iraq over the use and management of the Euphrates water. The project scope was to carry out a neutral technical study of the water resources development first for the Euphrates and then Tigris, so as to prepare the international legal and rights issues related to the use of these water resources by the three user countries. The objectives of the study have been stated as:

- Describe a possible water allocation and water resources management strategy that will maintain a sustainable river basin environment and the highest possible irrigation volumes in each of the watercourse countries

*) Sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

- Establish a scientific basis for the parties to reach a consensus over a river basin management regime
- Determine future possible impact of different management
- Contribute to a holistic evaluation of economic and environmental effects of different river basin strategies.

The study describes a strategy for possible water allocation and water resources management of the Euphrates and the Tigris so as to maintain a sustainable river basin environment and the highest possible volumes of irrigation in each of the watercourse countries. The goal is to contribute to agreements in principle on negotiations towards a trilateral water agreement.

The study consists of collecting, documenting, and analysing data regarding the water resources situation of the Euphrates River and the Tigris River. Documentation is believed to form the basis for further deliberations among the watercourse countries on the principles of integrated water resources management in the region. The analytical approach is based on a step-by-step integrated analysis. The development of a comprehensive analysis had to be based on water resources data from the respective countries as well as data derived from international studies. A water resource planning structure was applied throughout the process and over the analysis course. The scope of work was outlined with respect to four areas of analysis; these are optimised power production, economic efficiency, and water quantity and quality.

Some 15 technical country reports were produced and submitted to each country on the hydrological and economic efficiency of Euphrates and Tigris river management, and a draft final overall study report focusing on economic and environmental impacts of alternative scenarios for hydropower and irrigation was produced. While these reports have yet to be formally approved by the riparian recipients, both Syria and Iraq have through executive work given de facto approval. Irrespective of

the status of these technical reports, the process and the consensus-building were the key activities to which the studies and reports constituted crucial inputs.

Preliminary proposals were suggested based on the assessments and model simulations performed. An agreement on a water resources management framework is to be formulated between the watercourse states. If not, irreversible damage of especially the Euphrates in the lower part of Syria and Iraq may occur as irrigation volumes are increasing.

5.6.2 Main findings from project assessment

Water quality is considered an integrated element of the environmental aspects that shape sustainable development. However, only water quality data from the Euphrates River has been evaluated. The Tigris River water quality was not assessed since no data for the river basin have been available. It can be concluded from the study that a broader range of water quality data would have been desirable to fully assess the Euphrates River water quality status, but for the model-based analysis, salinity data provided a valuable basis. Other water quality parameters – if made available – could have been handled on an ad hoc basis and complementary to the model simulations.

In the study, water quality simulations were performed on the Euphrates River in Turkey, Syria, and Iraq. The Tigris River was not modelled since relevant water quality data were lacking. As stated in the study, the models used are preliminary; however, they can be updated and restructured to improve their representation of this complex natural system. The major limitations of the model are caused by the data made available (at this stage) by the watercourse countries. Therefore, the models-computed results are only estimates of possible impacts from the simulated scenarios and they should be regarded as indicative and not predictive of real impacts.

The findings of the simulations are no more than recommendations for a river basin management strategy, showing that with full irrigation,

the water quality in the river would probably not fulfil the user requirements in Syria and Iraq. Recommendations were to reduce the irrigation volumes to about 60 percent of the full irrigation in Turkey and Syria. If the river basins and the reservoirs have become subject to high salinity, the model simulations show that it would be a slow process to bring the water quality back to an acceptable level.

An assessment of conveying Tigris water into the Euphrates River in Iraq to improve the poor quality of water seems to be of limited effect in the prevailing conditions.

It is mentioned in the report that the performed analysis demonstrated that the water quality aspects have to be given special attention in the management strategy and particularly the impact of return flow from irrigation. However, key parameters such as bacteria, metal, nutrients (phosphorus and nitrogen) and biota characteristics have not been available. The mentioned parameters are essential to perform a comprehensive and appropriate river basin assessment, but lacking such data, the analysis conducted was as good as could be expected.

The general principles that are adopted by the study are based on the principles recommended by the UN Convention for International Waters. They can be summarised by the “Equitable and Reasonable Utilisation and Participation” and the “No Significant Harm” principles. This implies that the watercourses shall be used and developed by the watercourse states equitably and reasonably with a view to attaining optimal and sustainable utilisation thereof and benefits therefore without causing significant harm to other watercourse states. Water agreement principles are for the first time proposed by the study.

A comprehensive water resources analysis needs a solid and accurate data foundation in order to evaluate the status and determine the impacts and consequences of different river management regimes and strategies. However, it was clearly stated in the report that the data available from the watercourse countries

regarding the Euphrates River and the Tigris River are limited and do not meet the requirements of a comprehensive water resources analysis. On the other hand, given this constraint, the limited data available were considered sufficient to move into a negotiated agreement with subsequent follow up.

The following is a summary of the major pitfalls that were identified in the study:

- The economic efficiency analysis was not comprehensive; it was performed only for the Euphrates in Turkey, not in Syria and Iraq, which is inconsistent with the principle of equitable participation. The Tigris was not included in the analysis because it was not considered to be of much relevance to the process. However, such a limited scope of this analysis was chosen because the key concern was to demonstrate for Turkey what would be the optimum economical irrigation volume for Turkey alone, irrespective of possible water use alternatives downstream.
- National and verified data have not been made officially available by Turkey for the economic efficiency analysis, since Turkey withdrew these data once the water quality modelling results were presented. Instead, the data were either estimated or derived from international studies and data sources, which by coincidence happened to be the same as the national data that Turkey had withdrawn.
- Drinking water has not been included in the economic efficiency analysis; however it may have high priority in the foreseeable future.
- The irrigation extractions i.e. volumes (irrigation water demand) have not been attributed in the study to any crop water requirement analyses performed in Turkey or Syria. This should be based on proposed cropping patterns that necessitate various crop water requirements, but such cropping patterns were not avail-

able to help in assessing volumetric water demand.

- The specified crop season duration (8 weeks) does not work in practice; the duration of almost all seasonal crops far exceeds this level. It should ideally be done on the basis of cropping patterns and climatic conditions, but compared to other critical water flow and quality parameters, the irrigation period (crop season duration) is not that significant for the analytical outcome.
- Since the technical setup of the power plant was not made available, and since it was a pre-requisite that the models be based on 42/58 allocation between Syria and Iraq, CESAR did not simulate the Syrian case of hydropower generation and water allocation downstream, knowing that the Tabqa Dam produces significant hydropower energy.

The Euphrates Initiative and the subsequent Atlas II project are highly relevant both to the MFA and the riparian states for “door opening” and for raising awareness of the importance of establishing a process leading towards sustainable management of this crucial shared water resource. Atlas II represented a unique but risky effort at establishing confidence in a scientific approach to facilitate solutions for existing and growing water conflict issues in the three riparian countries, two of which had been virtually inaccessible to western diplomacy. Water-related tensions between these three were a grave international concern, and mediators needed an entry point for getting dialogues started to avoid open conflicts. At the same time, a rapidly deteriorating water condition downstream of Turkey in these two rivers constitutes a major human health threat to millions of people, and is therefore highly relevant from a humanitarian perspective.

Through numerous MFA-financed consultation visits to the riparian countries, CESAR carefully established confidence at a high political level in Syria and through this managed to get access

to a high political level in Iraq, both based on its multilateral Atlas II concept. This “door opener” effect in an otherwise “closed” Syria was a clear breakthrough benefiting MFA and other interested Norwegian parties (like FAFO) and of value to Norway’s allies in the peace process (like the US State Department). The many scientific and technical reports from CESAR submitted to each of the riparian parties have increasingly shown the importance of addressing water quantity and quality jointly and not sequentially. This has caused tensions between CESAR and Syria’s Irrigation Ministry. The CESAR models are preliminary and simple, but use the key quality parameter (salinity) to emphasize the crucial role of water quality. With more water quality data at hand, it is likely that the conclusions would have been even more dramatic. Even if they have adopted several possibly unrealistic self-made assumptions in critical places where official data are unavailable, the models appear internally consistent and present simulation results that should be taken seriously by the riparian Governments as inputs to much needed water resources management reforms.

However, apart from the “door opener” effect for MFA in Syria, effectiveness has so far not been achieved because the CESAR process was not internalised/adopted by the riparian parties, and the many technical reports have yet to be formally approved. It appears the ambitions regarding what this trilateral scientific approach could achieve in the time frame initially anticipated, were too optimistic. On the other hand, the process is continuing, but the outcome is uncertain.

Since the CESAR initiatives and implementation of the Atlas II project were never subject to any form of competitive bidding, it is virtually impossible to establish a benchmark against which to measure the cost-efficiency of what CESAR has done. If the total amount of close to 19 million NOK from 1996 to 2002 is seen in relation to the written reports and the technical outputs (data collection, measurement and analysis of water discharge and – quality as inputs in the various models described above),

it would appear that this has been a very costly engineering project. Only 10 percent (1.9 million NOK) of the total expenditure is on travel and transport while 8.5 million NOK were fees for CESAR staff during the 1996–1999 period, and 7.1 million NOK fees for external technical staff, half of which was paid out during the 1996–1999 period. Unless most of the own staff fees were for consultation meetings and travel time related to the process and not for the technical project components, it would appear that the technical reports produced have been very time and cost-consuming.

However, the overarching goal of Atlas II for the MFA and its western allies has been to establish contact and confidence with regimes that had hitherto been out of reach. This was a high-risk task with a most uncertain outcome, and with no a priori idea of what it would take in the form of calendar time and consultation frequency. From this perspective, CESAR achieved much of what it set out to do, and it is impossible to judge whether this could have been achieved with a lesser input of consultation visits accompanying the technically based confidence building.

As of now, it is highly uncertain whether the facilitation provided through the Atlas II process can be sustained. Several events – mostly beyond CESAR’s control and influence – contribute to this, including: (a) the termination of MFA funding of CESAR’s Atlas II technical work and consultation meetings, (b) several changes in government and staffing of key influential positions in the riparian countries as well as in MFA have affected the confidence in CESAR (and now COMPASS), and (c) the Iraq war. When MFA funding stopped, CESAR decided to establish a new complementary foundation – COMPASS – based in Switzerland, and to transfer the entire Atlas II portfolio there, with the prospects of the Swiss Government as a new sponsor of this work.

5.7 The Palestinian Water Law

5.7.1 Project background and description

Following CESAR’s history with the Palestinians from the initial training program conducted back in 1992 (under WFED) and its subsequent role as facilitator in the context of the MWGW, the Palestinian Water Authority (PWA) requested Norwegian support to assist in the formulation of a Palestinian Water Law. This followed a previous request to Norway for assistance from CESAR to establish the Palestinian PWA later supported by Norway through an institutional cooperation arrangement with the Norwegian Water and Energy Authority (NVE). The project was initiated based on terms of references elaborated with assistance of NVE and funded under the bilateral agreement between Norway (NORAD) and PA for support to establishing and developing PWA. This is the only project by CESAR supported by Norway which has been subject to external reviews (1997 and 2000) as part of regular reviews of NORAD’s assistance to the PWA.

As a preparatory step for drafting the law, CESAR carried out a survey of all normative laws and regulations applying in the water sector covering the Ottoman rule period, the British mandate, the Jordanian laws and regulations and the Israeli Military Orders. As a next step CESAR hired an Israeli Lawyer for drafting the law. A first draft was submitted in 1998 and a second final draft in 1999.

5.7.2 Main findings from project assessment

CESAR’s first draft presented to PWA was not fully accepted. The reasons for this can be summarised as follows: (i) the draft was done with limited involvement of PWA and Palestinian legal advisors (ii) the draft introduced a whole range of new issues and topics that were not familiar to the PWA. Subsequently more effort was requested by PWA from CESAR to involve the stakeholders in the drafting since initially no workshops were held and no dialogue initiated in the process of drafting it.

Accordingly, PWA requested CESAR to hire a Palestinian legal consultant to work directly with its staff and undertake the changes. Another draft was finalised in June 1999. This draft was done jointly with the PWA and presented a revised framework for regulating the water resources. However, this same draft was broadly changed by the Ministry of Justice and the legislative Council.

In general the law that was adopted by the Palestinian Legislative Council (PLC) deviates substantially from the one CESAR submitted in June 1999. The chapters on planning, licensing and construction schemes were deleted and the law went through a long process of consultation and dialogue with the main stakeholders. Many workshops were held to review the relevance of the principles of the law and their applicability to the situation in the Palestinian Territories. In the opinion of the PWA the deleted items will be handled later in the various regulations that will be formulated and adopted in that regard.

As for the outcome of this project it may be claimed that after CESAR was requested to engage the Palestinian legal consultant, a draft legal framework acceptable to PWA was presented i.e. the project achieved its objective even though the draft law was substantially changed before final approval by PLC.

A water law for the PA was a welcomed step by all Core Parties. CESAR as a facilitator in the multilateral process was well placed to play the role of advisor in this process. In retrospect however, it may be claimed that the development of a national law would have been more appropriately formulated by national and international consultants not associated with a multilateral process the nation is involved in; rather than by consultants having a regional agenda trying to serve several parties collectively. This is because the making of a national law is not only a technical legal issue but also requires strong loyalty to the nation and its policies on the part of whoever is drafting it.

5.8 The Early Warning System, Quality Research Component and Simulation Model, Jordan

5.8.1 Project background and description

When assessing the contribution and significance of this project it is important to keep in mind the history of the Deir Alla - Zai treatment plant which receives the water supplied to Amman from the King Abdullah Canal (KAC). The canal in turn receives its water from Israel, the Yarmuk River (shared between Jordan and Syria) and smaller sources within Jordan. This background information is presented in annex VII and can be summarised as follows:

In 1998 the Treatment plant at Zai failed to cope with the changing composition of the canal water and the pumped water to the Amman area proved again to have a bad taste and odour as in a previous incident in 1987. The bad taste and odour continued for weeks despite the fact that the Minister of Water and Irrigation was insisting that the water fulfilled the international standard for drinking water (WHO-Guidelines). Protests continued and the Minister of Water and Irrigation had to resign, followed by the rest of the government some 10 days after the resignation of the Minister.

Following this event the Early Warning System (EWS) became of utmost importance and the water supplied from Deir Alla became, with time, very essential for the municipal water supply of the capital city of Jordan; Amman, other cities and villages.

As indicated, to run the system has proven to have severe consequences for employees, officials, ministers and even governments in Jordan. Therefore, staff at the Ministry of Water and Irrigation (MoWI), the ministry responsible for water supply, tried to avoid being linked to the water supply system. Without an automated EWS, the system was considered as subject to risk of failure anytime with a severe political cost to the government itself.

The history of the two catastrophes of 1987 and 1998 has made everyone aware and cautious of the risks of a malfunctioning water treatment. Employees of the Water Authority of Jordan even tried to avoid working in matters related to Deir Alla Zai project, in order not to run the risks of being associated with treatment failure. The EWS became very essential with time, especially after adding a new source of water to KAC, which is the water pumped from Israel according to the peace treaty. That water and its reactions with the water in KAC made the treatment at Zai more complicated in terms of changes in the composition of the intake water.

The MoWI in Jordan engendered great expectations on establishing an automated EWS and was hoping to minimise the risks of the treatment plant not coping with the changing composition of the water in KAC. Subsequently, after the treatment failure in 1998 the MoWI approached Norway for funding to supply and install a fully functional system with technical assistance and supervision from CESAR.

In response to this request, CESAR, with sub-contacted consultants designed the system and presented it to MFA for funding. After an internal appraisal in MFA the project was approved. While CESAR became the overall project manager they in turn sub-contracted consultants from a Norwegian company (Interconsult) for supervision services and another supplier of technical installations (six fully equipped monitoring stations).

For technical details of the supply reference is made to the project application from CESAR to MFA (ref. list of documents in Annex III).

5.8.2 Main findings from project assessment

The EWS at the Zai Treatment plant is the second largest project in CESAR's portfolio with a total contribution from MFA of 19.3 million NOK⁷. The system consists of 6 monitoring units along the KAC with associated research and water simulation components. The project started in 1999 and since 2001 CESAR has tried

to transfer the system to the Jordanian Government. However, the Jordanian authorities claim that the system has never worked and accordingly the Government of Jordan has not accepted commissioning of the system.

In 2000 the system was starting to provide data but was subject to frequent faults and information provided did not comply with the data collected manually – a procedure still applied.

There is no contract between the supplier (CESAR) and the receiver (MoWI). Contractually the project is only governed by the letter approving funding from the MFA to CESAR. In reality then MFA is the contracting party for CESAR while Jordan is the receiver of an “in kind” contribution from Norway.

The status for the various monitoring units is the following:

- M1 – M2 – stopped functioning in July 2002.
- M3 – stopped functioning in Sept 2002.
- M4 – never provided adequate and reliable data.
- M5 – stopped functioning in June 2002.
- M6 – is located at Zai main treatment plant with instruments that could be monitored manually and thus not relying on telemetric transmission.

No reliable data has been received even from the units transmitting (telemetric transmission). This is claimed to be due to a multiple set of problems:

- Faulty instruments.
- The transmission system did not function properly.

7) Includes associated components such as water simulation model and quality research.

- The instruments could not withstand high temperatures in the Jordan valley (designed for a different climatic condition).

The implementation has been claimed to be suffering from a lack of adequate technical supervision from Norway with several, but mostly short term missions of only a few days and with too limited training for operation and maintenance.

With this state of affairs various parties in Jordan including external consultants have suggested dismantling the system. Instead they have recommended installing a new system as the only solution with a gradual transfer of the system on a test basis to ensure that it can be operational. With a joint management period between the supplier and Zai Treatment Plant, full functioning could thereby be ensured before commissioning.

There are currently two similar systems implemented:

- A regional French supported project with 40 stations of which 10 are located in Jordan and 4 now transmitting data on an hourly basis.
- A national Japanese funded project under the ownership of the Higher Council of Science and Technology which has sub-contracted the Royal Scientific Society of Jordan (RSS) to implement the system with 13 monitoring stations. All stations are transmitting data every hour with four of the monitoring stations located in the King Abdullah Canal.

The software design of the French and Japanese systems is more modern than CESAR's as it uses web based interface rather than dedicated standalone software. However the systems monitor a narrower range of parameters.

In comparison with the design and implementation of the above mentioned systems the project should have ensured internal capacity to main-

tain the project. There should have been an adequate legal framework regulating what was to be supplied and the process for transfer of operational responsibility, i.e. the system should have been delivered through a turnkey operation with a full package including sufficient technical assistance and training governed by a contractual arrangement clarifying the responsibility of each party.

The full cost of the Japanese system is estimated at 2.5 million USD for 13 stations and at 1.5 million USD for the 10 stations in the French funded system. They are fully institutionalised with significantly more emphasis on training and capacity building. In comparison the CESAR funded system of 6 stations has a cost of approx. 2.7 million USD⁸ i.e. 450 000 USD per station as compared to the Japanese cost of 190 000 USD and the 150 000 USD for the French funded system – making the system funded by Norway 3 times more expensive. Even though the Norwegian supplied system is more sophisticated in providing a wider range of data, the cost compared to the others appears high.

Other subcomponents of the project have been the quality research component and Water Simulation Model.

The research component of the project required the production of basic data from the canal water, which included measurements of a variety of parameters for an extended period of time (at least one dry and one wet season). The measurements carried out in the period August 1st to 10th 2001 are not a sufficient basis for research. This is due to the complexity of the canal system and because the conditions prevailing in the Jordan Valley area are different from elsewhere, such as ultra-violet radiation, oxygen content, pressure etc. Since reliable data over a sufficient period of time has not been produced, the research component appears to have not been fully implemented yet.

Two computer models were foreseen for simulating the water quality of the KAC along its

8) Calculation based on project accounts and the annual average NOK/USD exchange rate for each year.

course, namely MIKE II and QUAL 2E. These models were developed and tested in areas of the world which are different from those in the Jordan Valley area. Therefore, they cannot be directly applied to the KAC system. They require adaptation to the special conditions, which in turn requires many seasons of measurements and observation, which as mentioned above has not yet been done.

The simulation models have not yet been transferred to the concerned recipients in Jordan (they are still with CESAR and the University of Washington contracted to develop them). Accordingly MoWI has not been able to enter its manually acquired measurements into these programs in order to test the models and to start adapting them to the special conditions of the Jordan Valley and the KAC, in order to produce the simulation model.

It is therefore too early to draw any conclusions on the final outcome of these two components.

5.9 Decision-making Support System in Lebanon

5.9.1 Project background and description

The stated objective of this project was to assist Lebanese experts in carrying out a pilot project for the Bardawni River in Bekaa Valley, as a basis for a full scale Litani river pollution control and water management project.

The first contact between CESAR and Lebanese authorities was with the Ministry of Foreign Affairs, which subsequently led to contact with the Ministry of Agriculture (LMA) in 1994. This came about as a result of a CESAR initiated promotion in the context of the multilateral process. CESAR wanted to link Lebanon indirectly to the water group under the "Multilateral Peace Process" because of the strategic and sensitive role of Lebanese water resources in the region. Part of this process was a regional study of economic, institutional and legal aspects of water management in Lebanon and the other four countries in this region.

The pilot study was completed with a report submitted to the LMA where CESAR advised, assisted and trained Lebanese technical experts. The project activities included data collection, organising and processing data, applying computer models of historical data to calibrate the simulation model, and using this model to describe and analyse future development alternatives and impacts. Furthermore, the aim was to facilitate cooperation across sectors (hydropower, irrigation, industry, recreation, household use, etc) regarding water resources planning and management. The project is presented in the draft final report "Water Resources Management in Lebanon – A Case Study of the Bardawni River." (23 August 2000). It was submitted to LMA, but not distributed further, once MFA decided to withhold further financing.

5.9.2 Main findings from project assessment

CESAR's concept was to facilitate MFA's relationship and dialogue with Lebanon with the aim of gradually getting Lebanon engaged in the multilateral water process. This pilot pollution control project approach was viewed as relevant because pollution control was locally important for key politicians at that time. It was not too politically sensitive for the regional water conflict approach when presented as a bilateral technical assistance project. It was very relevant as an entry point for participation in the complex and vulnerable multi-process because cleaning the Litani would provide Lebanon with enough indigenous clean water and thus ease the tense conflicts with Israel over access to and use of South Lebanese water courses shared with Israel.

The Lebanese recipient confirmed that the pilot pollution control study was a successful local bilateral project. In a follow up to the study they wanted a full scale Bekaa Valley (Litani River) pollution control project to enhance domestic water supply in terms of quality and quantity. A successful full-scale Litani-pollution control project could also help to ease tensions with southern neighbours over shared water

resources. The change of political leadership in Lebanon at an unfortunate time for launching the full project and a poorly timed invitation to the new leaders to attend an opening conference in Norway resulted in a delay in the Lebanese commitment to the full scale project. This coincided with MFA's decision to evaluate CESAR's MFA funded activities. These events (much of them beyond CESAR's control) combined to make MFA decide not to fund the full project, even if MFA should have been fully aware of the potential regional conflict resolution impact in facilitating a cleanup of the Litani River. The pilot project produced a series of local outputs, including a pollution control decision-making system, and trained a number of Lebanese staff, but the longer term regional conflict resolution impacts envisioned by CESAR never materialised.

In total MFA paid CESAR 3.13 million NOK over three years. A follow up with a full scale Litani project depended on external funding (Norway). This showed that the new Lebanese regime at that time did not place sufficiently high priority on the Litani cleanup scheme; neither as a domestic nor as a regionally strategic project.

5.10 Analysis of Water Quality and Quantity in the Euphrates River - Syria (Atlas II b)

5.10.1 Project background and description

ATLAS Iib was designed to assist Syria in developing coordinated plans for national water management based on a mapping of the water situation (supply and demand) in Syria and in conducting monitoring (WQMS) including initial operator training. More specifically, the project should:

- Establish a basis for improved management of the Euphrates River based on better understanding of the effects of changes in water utilisation on river discharge and water quality; and
- Serve as an input to the possible cooperation and exchange of information with the other riparian states.

Based on CESAR's role in the MFA-financed Euphrates initiative of 1996/7, related to the water conflicts between Turkey, Syria and Iraq, and subsequently through the ATLAS II projects, CESAR gradually developed a strong trust and high level of confidence with key Syrian authorities in water related issues. CESAR's work on ATLAS II thus resulted in another related and closely linked *bilateral* project with Syria. Its purpose was to assist Syria in its preparations of its positions for water negotiations with Turkey. Unlike Iraq and Turkey, Syria needed much more training and capacity building in the water mapping and management sector in order to become an equal negotiating partner.

This bilateral project was initiated by CESAR to obtain valuable water quality data on the Euphrates River in connection with the multilateral discussions between the riparian states where water use of the river has been on the agenda. This project was labelled ATLAS Iib and such monitoring work was given very high priority by Syrian authorities in 1998. They immediately committed themselves to providing operators and to carrying out infrastructure work at all monitoring sites.

A Syrian Water Monitoring program was implemented with 3 monitoring stations placed along Euphrates. Training was provided but infrastructure and logistics problems resulted in the failure of monitoring stations (the one near the Turkish border has worked much of the time) to transmit and use the intended data. The project is not finalised due to MFA's decision to stop funding of the project. Syria is still awaiting finalisation.

5.10.2 Main findings from project assessment

From the start in 1998, Atlas Iib was seen by CESAR and MFA as another means or entry point to further strengthen Norwegian ties to Syria; and thus add a new dimension to Norway becoming a more prominent actor in the Middle East Peace process. Gradually, however MFA, became sceptical about this outcome, due to CESAR's already close relationship with

Syria, along with Turkey's increasing unwillingness to cooperate with CESAR's already ongoing multilateral Atlas II. This followed the launching of the bilateral Atlas Iib activity which got CESAR even more involved in Syria.

For Syria this CESAR initiative was welcomed because of their gradual acknowledgement of a growing water crisis closely linked to, among other things, assessing the future availability of good quality Euphrates water.*

Based on CESAR's Atlas II and – Iib progress report and technical reports, MFA expressed considerable satisfaction with the performance of CESAR as a supportive and facilitating actor in conflict resolution situations, and as facilitator for a good dialogue between Syria and Norway. This satisfaction gradually tapered off and MFA began to question real achievements. As for the technical installations and technical assistance (inter alia the training of local technicians) CESAR failed to deliver as expected by MFA, and contingencies were not in place to remedy the unexpected. The three remote monitoring stations proved too vulnerable in relation to the erratic and poor supporting and communication infrastructure provided by Syria. It failed to deliver the data and analysis Atlas Iib were to deliver. Due to financial constraints, CESAR could not follow up with spares and repairs required by them. Water quantities on the Turkish border could not be measured due to too high water levels in a recently built Syrian dam near the border. This invalidated all water quantity measurements undertaken. Atlas Iib has not been completed since MFA funding was stopped.

The MFA contribution to this project has been 6.0 million NOK. All along CESAR has had close technical support and a working relationship with Interconsult which has been in charge of all technical matters in the project. No Syrian Government representative was prepared to judge whether others could have done a better job than CESAR for the amount of money available. For one thing, CESAR has not yet com-

pleted the project, and furthermore, no other institution has been invited to do bid for the project. However, similar monitoring stations were installed by CESAR in Jordan at substantially higher all-inclusive unit costs, but when comparing costs to those of other suppliers (Japanese and French) for comparable monitoring stations in Jordan, the monitoring stations in Syria appear to have been rather costly, but not as excessive as CESAR's stations in Jordan.

Atlas Iib as a facilitation process has so far relied entirely on Norwegian funding. Sustainability of the bilateral technical monitoring project also depends on MFA funding of qualified technical expertise, since Syria has so far not attached enough priority to it to finance it from its own resources, even if they institutionalised it with MoIRR. Without the functioning monitoring stations and with no further funding from MFA, the project is clearly unsustainable, unless CESAR succeeds in convincing the Swiss authorities or other external donors to fund it through the COMPASS Foundation which Professor Trondalen (of CESAR) has now established.

5.11 Strategic Water Management Syria

5.11.1 Project background and description

The main objective of this project was to establish an expert group to prepare a Syrian Water Plan. Furthermore, on the basis of CESAR's experience and data collected during Atlas II, Atlas Iib and information collected over several years on Golan Heights, it was seen as a joint CESAR/MFA initiative to attract and coordinate foreign investments to implement the Syrian plan.

Based on CESAR's recommendation, following a meeting in Syria's multi-departmental High Water Committee, Syria requested Norwegian assistance through CESAR as a key advisor to the Committee for handling their fast growing water shortage which they attributed to increased Turkish use of Euphrates water.

*) Part of sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

CESAR proposed to do this in the form of a consultative/advisory process by associating the study according to the above objective.

5.11.2 Main findings from project assessment

The project (at the present stage a feasibility study) is clearly relevant for Syrian authorities due to the growing water crisis and the lack of government initiatives to deal with the underlying causes. To what extent the project is relevant for Norway as a donor is less clear. If seen as a key input to the multilateral non-core water initiatives for facilitating the regional peace process, it would be of relevance. As a purely bilateral aid project, it would not, since Syria is not among the main Norwegian partners in development cooperation and the Syria “door” to Norway has already been “opened” by means of the Atlas II and Atlas IIb projects.

There has been limited activity undertaken in this project so far other than the spending of some funds on a series of meetings and consultations and the preparation of a couple of notes describing the emerging crisis, a couple of related brief strategy notes and project proposals. Syrian awareness and willingness to seriously initiate reforms needed to address the water crisis do not appear to have been influenced to any measurable extent by this MFA funded initiative. Furthermore, there does not seem to be any impact of this proposal on the multilateral process. CESAR, however, has “packaged” this proposal to the MFA as a confidential and sensitive issue due to its possible linkage to the Euphrates/Tigris issue. With

MFA’s acceptance of this approach, CESAR with its sub-contracted consultants have virtually monopolised this Norwegian funded market segment in Syria by not letting anyone else “onboard”. However, MFA found that there were internal Syrian disputes over the CESAR proposal at the same time as MFA decided that it was time for this evaluation, and MFA funding stopped. Short of any of the intended impacts, effectiveness has been low.

*With no baseline data for comparison purposes it is difficult to assess the effectiveness and efficiency of this project for Syria. Nonetheless, judging by the limited documentation and operational policy recommendations over and above what e.g. the World Bank has produced in 1999 as input to a Syrian Water Management Strategy, it would be difficult to draw firm conclusions at this stage whether the 2.2 million NOK has been spent efficiently.

It would seem unlikely that MFA will grant the amounts CESAR has stated are necessary for their proposed three year bilateral project without calling for competing tenders. Syria clearly needs such a strategy and sector reform immediately and CESAR is one of many expert groups that could provide technical assistance in that process. Syria is, however, not a main partner country for Norwegian development cooperation, and for that reason such bilateral project financing is unlikely unless the MFA adopts the view that this project is crucial within a wider regional strategic setting.**

*) Sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

***) Part of sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

6 Overall Assessment of Projects

6.1 Relevance of Projects

When assessing the overall relevance of projects, there is a need to distinguish between projects where CESAR has been playing a facilitating role to promote regional cooperation (“Multilateral Projects”) and projects implemented on the basis of requests from individual parties to supply technical services for technical and/or investment related activities.

In the former case CESAR has been able to institute a process from the Atlas I through the Regional Comparative Study and Waternet in promoting cooperation and dialogue among the parties as the projects were intended for. Even during times of political crisis the processes have continued and the dialogue among the three Core Parties has been maintained with technical level meetings centred on joint agreed project activities. Thus as tools for promoting cooperation, they have proven their relevance as far as Israel, Jordan and the Palestinian Authority are concerned.

In terms of the Atlas II, repeated attempts have been made to use the project as an opportunity to promote a dialogue between Turkey, Syria and Iraq. Although to date the main actor in this process has been Syria, contacts were made with Iraq, but political events have changed this situation dramatically. In terms of Turkey, they never became a full party to the process due to the asymmetry of incentives between the parties (limited visible gains for Turkey but strong incentive for the downstream nations Syria, and even more so Iraq).

In terms of bilateral projects CESAR has played the role as a regular supplier of technical assistance and supervision services for investment related projects. This is a completely different role from the above mentioned projects. Although there are regional linkages and elements linked to the need for shared water management and monitoring (like the Early Warning System in Jordan intended to monitor

water quality from upstream country resources, and the Palestinian Water Law to be developed to be compatible with neighbouring states and conducive to final status negotiations), they did not specifically contribute to the overriding objective initially guiding the decision to support CESAR’s projects in the region; as a Norwegian contribution to the multilateral process in promoting dialogue over shared water resources in the region.

6.2 Effectiveness and Impact of Projects

In terms of effectiveness of projects they have been assessed based on two main criteria;

- The outputs in terms of contribution to the project objective in a narrow sense i.e. to what extent it has produced the intended outcomes for the individual parties.
- The project contribution to the process of promoting dialogue and cooperation among the parties.

The effectiveness of the projects, individually as well as their contribution to the overall objective, can be summarised in the following:

The *Atlas I* project produced a product which was neither widely distributed nor used. For Israel the key issue was to be a contributor to a process. Israel did not relinquish information that it considered of strategic importance to its bilateral positions and negotiations. For the Palestinians, expectations were high in terms of getting data which they could use as a contribution to building their own data base, but for reasons mentioned above the product did not fulfil these expectations. The product only presented and contained references to publicly available data with limited new information. Analysis of the reliability of this information was inadequate. For Jordan, the Water Atlas was not a major issue nor did it involve key institutions and persons in Jordan in the process. Despite

the shortcomings of the output, the project proved to be instrumental in introducing CESAR to the MWGW as a potential facilitator for subsequent projects.

The *Regional Comparative Studies* were the first of CESAR's projects formally adopted under the framework of the multilateral working group. It was also the first (and only) project that involved all five parties even though Lebanon and Syria did not formally participate in the MWGW. The studies were the first to present water laws, institutions and policies in a comprehensive manner for all the five parties in one common language. Although they were not scientifically ground-breaking publications, they have been considered by the parties as key reference documents for analysing compatibility of water laws and policies in the region. This project led to a closer cooperation among the parties and created an environment for confidence building among them. On one occasion it even led to the first (and only) meeting among all five parties.

Norway (like many other donors to the MWGW process) strongly advocated the need to show tangible outputs from the MWGW process which led to a signing of the Declaration of Principles among the three Core Parties in 1996. Even though the DOP between representatives of the parties is seen more as a wish from Norway to have something to show for as a contribution in the follow up to the Oslo process, it gave Israel an opportunity to show publicly that it was party to a political process with first and foremost Palestinians. The DOP does not represent any commitment and does not deal with core issues, but it did pave the way for longer term cooperation like the Waternet and establishing the Regional Waternet and Research Centre.

The *Waternet* project has created a fully operational database of English abstracts of Israeli reports (16000) available through a local network of institutions in Israel. In the Palestinian Territories an attempt was made to establish a similar network; however it has never been operational. In Jordan a local network was

established and some 1200 abstracts of Jordanian publications were entered. However the network has ceased to function due to technical problems. For the reasons mentioned above the regional network has never functioned and subsequently it has not served the intended purpose of sharing information among the three Core Parties. Waternet will require a redesign and additional technical assistance inputs to be fully reactivated in the PA and Jordan as well as at the regional level. Even though the project has technically produced far less than the planned outputs, it is a project that will maintain and further promote cooperation among the three parties, if reactivated and redesigned. Accordingly, the problems faced require a solution so as not to lose the momentum created.

The *Regional Water Centre* has yet to be fully established and subsequently it is too early to draw any conclusion as to its effectiveness and impact. However, for the regional centre to function as intended, it requires that the Waternet project is reactivated, and that national networks are fully established with all parties linked through a regional server. With a well developed business plan and a water net reactivated, the Centre will have an opportunity to serve as the first institutionalised cooperation among the three parties.

The first draft of a *Palestinian Water Law* presented by CESAR formed a basis for elaborating the now approved law. As a drafting process the project achieved its objective, even though the final approved version deviates substantially from the initial drafts produced by CESAR consultants. This can be explained by the fact that the process of the initial draft did not fully engage relevant Palestinian institutions in the process from the outset.

The *Early Warning System* supplied by CESAR to Jordan has never been considered fully operational by Jordanian authorities and as of today is not accepted as having been supplied in accordance with the initial project document (the only legal basis for the supply between the two parties). As such the project has never produced the intended outputs. Rather the project

has created a delicate situation for Norway in its relation to the Jordanian authorities which requires a dialogue between the Jordanian and Norwegian authorities to resolve (ref. recommendations below). The project was intended to resolve a highly sensitive issue for the Jordanian authorities and even in the region (monitoring water supply downstream of Israel and Syria).

Water Atlas II has produced a more comprehensive and well-founded set of water related information and impact analyses. It has been shared by the parties (Turkey, Syria and Iraq). The process continues, and it remains to be seen if it can subsequently lead to real dialogue and cooperation among parties, a process which has also been significantly affected by the situation in Iraq.

Atlas IIb in Syria has many of the same technical characteristics as the Early Warning System supplied to Jordan. It also suffers from some of the same technical and legal problems. The technical monitoring system has never been fully functioning and subsequently did not foster the expected cooperation nor resolved the initial needs of comprehensive water quantitative and quality monitoring for Syria.

The report from the *Pilot Study in Lebanon* has been founded on an acceptable scientific methodology. However, the impact of the recommended actions from the study has only materialised to a limited extent. This is due in part to changes in the political scene in Lebanon in which initial cooperating parties to CESAR are no longer the core decision makers, and because MFA of Norway decided not to finance the full scale study which would have been a regional strategic activity.

For the *MWGW Core Parties* (Israel, Palestinians and Jordan) the project outcomes have been unbalanced although they all have, through the participation in the projects, attempted to gain "political goodwill" as parties to the process. In terms of actual outcomes, none of them generated any significant benefit from the Atlas I. The Regional Comparative

Studies, although not of scientific value, is claimed to have served as a reference document for the parties. The subsequent DOP, however, is claimed most of all to have generated "political goodwill" for Israel without making any commitments which would affect core issues for the other parties, i.e. the issue of water allocation of existing resources. In the follow up to the DOP, Waternet was intended to serve as a tool for exchange of information, but in reality has so far only provided a benefit to Israel internally.

For Norway the projects may be claimed to have served the purpose of opening a new channel into the Middle East and Israeli-Palestinian peace process as well as opening the "door" to Syria, although it appears to have used the opportunity created only to a limited extent after the DOP was pronounced. On the other hand, it has created a delicate situation for Norway in its relations with the Jordanian authorities and MFA may face a similar situation in Syria if the problems with respective water quality monitoring systems are not resolved. The same may be the outcome in respect of the three Core Parties if the problems associated with Waternet are not resolved. If the intention was to promote changes in the regional imbalance on water issues, then Israel has been the strongest party to the process and project outcomes have so far not changed this situation.

6.3 Cost Efficiency

Overall, CESAR has complied with the project agreements with the MFA (and NORAD) for all support received. An assessment of project accounts does not indicate that consultancy rates and cost of equipment exceed market rates in a competitive market despite the fact that funding has been sourced from MFA without any competition. The funding has been provided from budget sources similar to NGOs/consultants like FAFO, i.e. CESAR applies for funds for its own projects and receives funding after appraisal by MFA. This is different from a situation of MFA contracting services, in which case MFA would have to comply with Norwegian

Government procurement regulations demanding competitive bidding.

In financial terms the three largest projects (Waternet, Early Warning System, and Atlas II) received 76 percent of total funding. Two of these projects contain larger investment- and project supervision components while Atlas II consists mainly of staff time by CESAR and consultancy fees (accounting for 85 percent of total expenditure).

Of the total funding received CESAR has covered general overhead expenditure (costs like management, office rent, secretarial services etc.) and contribution to equity from the three different sources; (i) the deviation between actual staff costs and fees charged to the project, (ii) an overhead charge of 5 percent (since 1999) on sub-contracted consultants to reflect cost of contracting and managing them, and (iii) the same fee on the cost of equipment to reflect cost of procurement services. None of these charges are excessive compared to the market for consultancy services and in some cases, part of the equity generated has been used to cover deficits in some projects from the proceeding years ("management fees" to cover general expenditure and generate operational surplus led to operational deficits in preceding years when projects have been funded out of equity previously generated).

Assessing the cost efficiency of each project would require analysis of opportunity cost and/or comparison with other projects generating the same output as a benchmark (which is the rationale for a competitive bidding process to ensure that the least cost solution is chosen). In our analysis some projects could be compared with the same type of projects in the same locations during roughly the same time. Other projects had to be compared with similar research and facilitation processes although in a different context and with a different content.

When assessing the project portfolio in terms of cost efficiency against this setting, the following observations have been made:

- In projects like *Atlas I* and the *Regional Comparative Studies* including financing of the process leading to the DOP the approach taken has ensured a low cost compared to quantity of output produced. In the former case a lot of the data and information collection was done with the assistance of students from the University of Oslo; in the latter case it engaged representatives of the parties themselves as consultants, changing their role from official representatives to paid consultants. In the countries concerned this is a common phenomenon, and even some of the "official representatives" to MWGW and bilateral negotiation processes are actually consultants on Government contracts.
- In the case of the *PA water law* it is also apparent that cost has not been excessive compared to the product produced, despite the fact that it was not fully subscribed to by the PLC and the PWA as previously mentioned, thus leading to a delay and additional inputs to the process.
- The cost of *Atlas II* is difficult to assess both due to the nature of the process and the lack of full details concerning budget and expenditure. A lot of staff and consultancy time has apparently been used for various meetings with respective parties and to collect data from archives at various locations. Only a full audit could provide the full picture of resource use compared to output produced. However, 18.8 million NOK would appear to be a very high cost for compiling available data through various country reports leading to the final publication. However, some of the cost is related to a facilitation process promoting dialogue between the parties with numerous meetings convened.
- The larger scale investment-related projects like *Waternet and Water Monitoring projects* in Syria and Jordan have a high volume of technical assistance input. Even the high cost of technical assistance

has not enabled the projects to achieve their objectives. Although there may be several explanations for this finding (such as a non-conducive political environment and lack of sufficient funding), it still remains a fact that the cost per monitoring unit in the case of Jordan is high compared to similar projects implemented with funding from Japan and France, both of which are fully internalised in Jordan and in operation, after an agreed management period for testing by the supplier before commissioning.

6.4 Sustainability

Sustainability can be assessed from the following perspectives:

- The ability to sustain a project financially without external funding.
- The ability to sustain project outcomes by receiving parties.

All the ongoing projects will continue to depend on external financing to achieve final outcomes. For *Waternet and the Regional Waternet and Research Centre* no provisions have been made by any of the parties (at the time of this evaluation) to sustain them financially.

Atlas IIB in Syria and the *Early Warning System* in Jordan would have been financially sustainable if they had been functioning. However, since this is not the case the projects would still need additional funding from Norway before being finally commissioned and transferred to the respective recipient institution.

Project outcomes have been largely dependent on CESAR's own input with limited opportunities for the participating institutions in the region to sustain them. *Atlas II* is a process entirely depending on CESAR as a mediator/facilitator for the process to continue. *Waternet* has been implemented by use of external consultants with limited guidance on how to operate it technically for the institutions themselves and it has no staff available for maintaining and further developing the system and adding new records. The *Regional Waternet and Research Centre* is currently staffed by CESAR consultants. The *Atlas IIB* in Syria and the *Early Warning System* in Jordan would require substantial training and capacity building to be fully transferred when technical issues have been resolved most likely through a BOT (Build Operate Transfer) process.

All products in the form of studies and reports are in any case published under the name of CESAR and by the parties considered under the ownership of CESAR and Norway.

7 CESAR and its Approach

CESAR has played several different roles in the processes it has been involved in; as an initiator, facilitator and manager of projects, as facilitator, moderator and sometimes mediator in processes, some of which led to joint decisions on cooperation among parties. Based on an overall assessment of the portfolio of projects and the various processes CESAR has been involved in or managed, the following observations have been made:

- In the context of the MWGW and associated projects, CESAR has acted as a facilitator and moderator in such a manner that it generated and maintained trust and confidence among the Core Parties. The role CESAR has played in this context has created an environment which promoted continued cooperation among the parties even during times when the political environment has been non-conducive.
- CESAR managed to use the projects as a tool for dialogue at political levels among most of the parties in the region, including Syria and even on a few occasions, Iraq. As such it has served one of the objectives of MFA, to establish a channel of communication in the region reducing the dependency and risk associated with the other Norwegians dominating the scene in the Oslo process.
- As stated above, however, the projects have been implemented with a varied degree of success. The larger scale projects with high cost and a significant investment component like Waternet and Water Monitoring Systems in Jordan and Syria have so far not been successfully implemented. This can partly be attributed to the fact that funding from MFA was significantly reduced while awaiting the long process of conducting this evaluation. However, the projects also suffered significantly because of a lack of an

agreed legal framework for their implementation (no contract with the actual beneficiary). They also suffered due to a number of technical problems which have not been resolved and, also due to the complexity and size of the projects which require the capacity and competence of a specialised international engineering company, not a small research foundation.

From the above it may be claimed that CESAR has exceeded its level of comparative advantage and core competencies when taking on an additional role as a management and engineering consultancy company, despite the fact that the services were subcontracted to a Norwegian engineering consultancy company and/or employing engineers from the same internally in CESAR. The potential “conflicting roles” between a facilitator of scientific/academic processes with the role of an investment project implementer appears to have been recognised by CESAR since they decided to focus on the former role since 2001.

Starting as a small research foundation in 1995 with only a few employees, and established in the academic environment of the University of Oslo, CESAR grew in staff numbers and turnover significantly from 1997 to 1999 when the larger scale investment projects were taken on board. At its peak CESAR had approximately 10 fulltime employees and an even greater number of subcontracted consultants. Even at its peak, the staff resources were limited compared to the size of some of the projects engaged in, and this may be one explanatory factor behind the limited success in completing them as planned. It may also provide some explanation as to the low efficiency in their implementation.

When assessing CESAR’s role in the Middle East one must take into account the initial rationale for the MFA supporting the introduction of CESAR to the MWGW. CESAR intro-

duced itself to the MFA in 1992 as a professional scientific institution with specialisation in trans-boundary resource management issues using this feature as a facilitator for a dialogue to promote joint cooperation on shared water resources. MFA saw this as an opportunity to open a new “channel for communication and information” to the Middle East. The support to CESAR was also seen as an opportunity to mobilise input to the multilateral process and to maintain the international status of Norway in the Middle East following the Oslo process.

The specific benefit of CESAR in this context was its profile as an academic institution in promoting a dialogue between countries striving to resolve their water conflicts. On the one hand this role required a high quality of professional input relevant to the countries and projects supported; while on the other, the approach needed to facilitate cooperation and dialogue across borders ensuring political integrity and neutrality in the cooperation. This challenge is intensified in a situation of asymmetric access to resources and in an area strongly influenced by the Israeli-Palestinian conflict of which water resources are one of the main unresolved issues high on the agenda for the intended final status negotiations.

Initially, taking the role of a facilitator, and even mediator, in the context of the MWGW, CESAR was given a unique role by MFA representing the Norwegian government’s technical input during a time of significant political importance to Norway. Largely because of CESAR’s autonomy, it has been able to define the agenda, choose the participants, and develop programs to facilitate cooperation among the parties. Gradually, as illustrated by the various projects CESAR engaged in, this role was widened significantly in scope and geographical outreach, by engaging not only in the MWGW, but also attempting to establish a process to promote joint management of water resources with Turkey, Iraq and Syria, i.e. an attempt to facilitate two separate but interlinked (Syria) processes simultaneously. It also became a regular supplier of technical assistance and even man-

ager of investment projects to the parties in the region individually.

CESAR has attempted to bring five parties into the MWGW in line with the objective of the process to establish a consultative process and dialogue among all five countries. At one stage CESAR succeeded at the technical level in the process of producing the Regional Comparative studies. But CESAR has also attempted to establish a tripartite process involving Turkey, Syria and Iraq. Accordingly, CESAR has tried to work with Syria in two separate processes simultaneously which has required special confidence building measures. This has brought CESAR to a position where it could result in conflict of integrity for the parties. Not fully disclosing information to both sets of parties as to what CESAR was involved in, has created a situation in which CESAR has not been able to act as a fully transparent facilitator for any of them. This has led to some discomfort by some of the parties even though it has substantially added value to CESAR as a “broker” of information to others. This approach creates a high risk of losing integrity and has had an impact on some of the parties’ “confidence” in CESAR concerning its actual motives for participation and who it is providing information to.

Comparing CESAR’s role to others, the following may serve as an example:

In Central Asia, a USAID contractor also sought to shape the form and scope of new water sharing regimes over the Aral Sea Basin, but its initiatives were always carried out in close connection with the US Embassies in the region and with the main USAID headquarters in Almaty, Kazakhstan (A further discussion of different approaches and modalities of cooperation is given in annex VI).

In contrast to the above, it may seem that MFA has effectively given CESAR the role as an autonomous actor, which has used its autonomy to strengthen its position vis-à-vis the different Middle Eastern governments as well as the Norwegian government. On the one hand, its

autonomy could provide it with leverage that is unique to both an NGO and other mediators so that it can unequivocally mould the process and final outcomes. On the other hand, such autonomy has allowed CESAR to shroud its programs

in a web of secrecy to the public in the region and at times even its own government in Norway. The relationship to its main financial partner, MFA, is presented below.

8 CESAR and the Multilateral Working Group

The Middle East peace process and its bilateral track began with the Madrid Conference of October 1991. Subsequently, peace process partners agreed to establish a multilateral track, which began with an organisational meeting in Moscow in January 1992. The broad goal of the multilateral track was to focus on issues of common interest and importance throughout the region that can best be addressed on a regional basis. The multilateral track consists of five working groups: (1) Working Group on Water Resources, (2) Working Group on the Environment, (3) Working Group on Regional Economic Development, (4) Working Group on Refugees, and (5) Working Group on Arms Control and Regional Security.

The objective of the multilateral track has been to promote a just and sustainable peace through dialogue with emphasis on the following:

- (1) Support the bilateral talks of the Peace Process,
- (2) Explore solutions to key regional problems; and
- (3) Build confidence among the parties.

It was as a consultant for specific projects in the MWGW that CESAR was introduced as a contribution from Norway to processes in the region. Initially CESAR had started the Atlas I process directly with the parties before introducing it to the MWGW. Atlas I was not formally part of the MWGW.

The Madrid conference intended from the outset to include all Core Parties in the region, also Lebanon and Syria. In the context of the MWGW there has been a continued invitation also to bring Lebanon and Syria into the process. However, only in one case has there been a direct engagement from these countries in the process, with the compilation of the regional comparative study which was produced in two volumes, vol. I – for Israel, the

Palestinian Territories and Jordan and Vol. II – for Syria and Lebanon. All the five parties have only met once at technical level in a meeting facilitated by CESAR in an attempt to create an opportunity for closer cooperation and collaboration. Eventually Israel made this publicly known and subsequently Lebanon and Syria discontinued any further cooperation in the MWGW.

What processes to institute and projects to undertake was left very much to the parties, donors and donor funded consultants. Among others, CESAR proposed initiatives which the parties agreed to.

Since the first meeting in 1992 (Moscow) a series of MWGW meetings (altogether eight) have been held until 1996 when the adverse political developments put further formal processes on hold. Since then the MWGW has only had two informal sessions (1999 and 2000).

Since 1996 few new initiatives have been undertaken and subsequently the portfolio has been a continuation of previous initiatives described in the following:

Regional Water Data Banks Project – The three participating regional parties, with support from Australia, Canada, the European Union, France, The Netherlands, and the United States are implementing a project to establish, upgrade, and standardise regional data banks of hydrologic data. It was approved in 1994 and launched in January 1995 with the formation of the Executive Action Team (EXACT), a regional oversight group consisting of members from the participating regional parties and representatives from active donor countries.

Public Awareness and Water Conservation Project – At the 1996 MWGW meeting held in Tunisia, the Working Group initiated a project to focus on awareness programs for water conservation. Regional participants included Egypt, Israel, Jordan, Morocco, Oman, the Palestinian

Authority, and Tunisia. The program includes technical assistance in determining the best practices for establishing public awareness campaigns and educational programs.

Middle East Desalination Research Centre – The Middle East Desalination Research Centre (MEDRC) was proposed by the government of Oman in 1994, endorsed by the Multilateral Working Group on Water Resources, and inaugurated in Muscat in December 1996. The United States, Oman, Japan, Israel, the European Union, and Korea contributed financial resources to fund its establishment and initial operation. The Centre's mission is to conduct, facilitate, promote, coordinate, and support basic and applied research in water desalination and supporting fields.

Waternet Project – The Waternet Project, developed by CESAR in 1996 was the first joint initiative by the participating parties to implement parts of the Declaration on Principles.

It is important to note that among the various working groups established under the Madrid process only few of the working groups have actually been able to show real tangible progress of which the MWGW is one of the more prominent ones.

When assessing the projects and processes CESAR has facilitated and/or contributed to in the context of the MWGW it is evident that the projects have been complementing other efforts funded by other donors (or vice versa). Furthermore, the MWGW process has continued not least due to a continuation of the projects CESAR has facilitated. Accordingly, from a MWGW perspective CESAR has played a major role and complemented other efforts contributing to a continuation of the dialogue between the parties in the context of the MWGW and served to complement rather than substitute other donor funded efforts.

9 CESAR and NORAD Support to PWA

Norway's bilateral development assistance to the Palestinian authority has had as its main aim to support building the institutional framework for a Palestinian state. The support has focused on key institutions, such as the Ministry of Planning and International Cooperation (today the Ministry of Planning and the Ministry of Foreign Affairs), the Palestinian Electricity Authority (PEA), the Palestinian Central Bureau of Statistics (PCBS) and the Palestinian Water Authority (PWA).

Through an institutional cooperation arrangement with the Norwegian Water and Energy Authority (NVE), and following the decision by the PA, NORAD has provided support to establish the authority mandated by the law issued in 1994. The main components of this support program have been to develop management capacity and mandated functions related to PWA's regulatory role.

As previously mentioned, CESAR was requested by PWA, funded through this program, to assist in formulating a draft water law for the PA. As such there is direct linkage between the support provided by NORAD to institution building in the PA and MFA promotion of CESAR in the context of the multilateral process, since the latter, in the context of the Regional Comparative Study led the PWA to request CESAR as consultants for this particular component in the institutional cooperation program.

CESAR's activities in the context of the MWGW have in general, throughout, been linked to the support provided by NORAD to the PWA in

much the same way as the PWA has acted as the PA representative in the multilateral process. To the PWA the MWGW process was seen as an opportunity for regional cooperation, in particular with Israel, a key factor for the PWA to be able to fulfil its mandate. In addition to the issue of getting access to reliable data on water resources from its regional "partners" in the MWGW process, the MWGW process served to identify key regional contacts for the PWA in its efforts to build own capacity and gain access to information.

The MWGW process and activities facilitated by CESAR in this context assisted PWA to promote and maintain the dialogue with its regional partners. This was an important issue for PWA in its continuous assessment of how to fulfil its mandate, given the political complexity associated with the trans-boundary water resources and conflict with Israel. Without underestimating the importance of the above, the actual outcomes of the CESAR projects in the MWGW process subject to this evaluation have not proven to fully meet the expectations in terms of providing key information to PWA in developing its water management and monitoring capacity. As previously mentioned, the Atlas I did not provide any new and reliable data which could be used for the planning and management tasks of the PWA. The Waternet project has so far not improved the information flow between the PA institutions (the local network does not function). Nor has it enabled the PWA to gain access to additional information through Waternet from its regional "partners" in the MWGW.

10 CESAR and the Ministry of Foreign Affairs

As mentioned in chapter 3, one of the initial and prevailing reasons for supporting CESAR's participation in the MWGW, and its subsequent initiatives and projects in the region, was for MFA and its political leadership to have more than one channel of communication and dialogue with the parties in the Middle East, which at the time was dominated by FAFO.

The fact that CESAR was able to establish higher level contacts in countries like Syria and other countries in addition to the three Core Parties, added value to the MFA by opening doors to other parties in the region to which few others had access. It created an opportunity for Norway to position itself vis-a-vis others with an opportunity for entering into a direct dialogue, at high levels, on core issues like joint management and sharing of water resources, which has been a key issue in the region throughout history.

Only on few occasions did MFA (and CESAR) take the opportunity of bringing achievements out into the open in an attempt to show that Norway also could add value in the follow up to the Oslo Process (one exception is the Declaration of Principles). Although the political level of MFA, especially during the initial years from 1995 – 1996, did use some of the opportunities created, the MFA as a whole and the Embassies used them less so. While some Embassies on some occasions have taken the opportunities created for developing a dialogue with the country concerned, this has been an exception rather than the rule, especially after the DOP was pronounced. This observation may be explained by several factors:

- CESAR's approach was characterised by maintaining confidence through confidentiality, i.e. information was only to a limited extent shared. In the files of MFA, of institutions with the Core Parties as well as with CESAR, it is clear that CESAR's perception of the need for confidentiality greatly exceeds the under-

standing of the need for it by others. This is evident from the numerous documents "classified" by CESAR as confidential (and in many cases by MFA in Oslo) while they are publicly available in the region and/or not given the same classification by institutions and cooperating partners, and even sometimes by the Embassies. Based on consultations with MFA staff and others, this "secrecy" and lack of full transparency in its operations appears to have created a number of speculations and various versions within the MFA as well as among others in the region as to what CESAR's role was and who it was actually accountable to. This observation seems to indicate that CESAR has conducted its activities to a large extent with limited guidance and active participation by its main sponsor, MFA, which initially promoted it as an "alternative channel" into the Middle East.

- The lack of full engagement and the limited use of opportunities created by CESAR on the part of MFA may also be due to the limited recognition by MFA of the importance of water issues for a peace and reconciliation process in the region. The importance of water issues and the value attached to it by the parties in the region is evident from the fact that, despite Israeli incursions and the Palestinian uprising bringing the negotiation process to a standstill, cooperation on water issues has continued throughout and numerous initiatives have also been taken without the involvement of a third party. It appears that only in recent years has MFA recognised that water issues are of key importance in the context of foreign policy and the role Norway has attempted to play in mediation and conflict resolution (ref. among others, the newly introduced first draft strategy related to Norway and water issues in foreign policy).

- The cooperation has also been constrained by the fact that MFA itself has had limited guidance on how to deal with NGOs/consultants like CESAR. While the “Norwegian Model” is based on the rationale that Norway as a small nation needs to mobilise NGOs and the private sector to complement its efforts at the political level, it appears that in many cases these NGOs/consultants have ended up in the “driver’s seat” of the process. This is rather than being used as tools directed by a clear policy and operational strategy for continued engagement in the region.
- Following the Oslo accord in 1993, the total Norwegian government allocation to activities in the Middle East was increased from a approximately 20 million NOK to a level of 300 – 500 million NOK per year in subsequent years. This was not accompanied by a parallel increase in personnel to manage the portfolio internally in MFA. During the same period MFA underwent a reorganisation in which previous desk officers dealing mostly with policy issues suddenly became “programme” officers managing large volumes of development assistance without any clear procedure on how to manage the portfolio. Applications for funding are subject to thorough and lengthy scrutiny and appraisal by NORAD, often with assistance of external technical expertise, followed by annual review meetings and frequent external reviews. MFA, on the other hand, relied on its own internal staff and rarely conducted external appraisals and reviews (this is the first comprehensive external evaluation of NGOs/consultants activities in the region funded by MFA after 10 years of annual support).
- When reviewing project proposals from CESAR, we see that they are general in nature with limited details to permit a comprehensive appraisal. Only a few project proposals contain something like

a detailed workplan with a schedule of activities, associated costs and expected outputs to serve as indicators for monitoring of progress. For each project an application had to be submitted every year due to the procedure in the MFA of only approving funding for one year at the time. This has made it very difficult to fully appraise the project proposal and monitor the progress of them as basis for additional funding in subsequent years. The Terms of Reference for this assignment indicate that CESAR has received some 60 million NOK from MFA while the actual amount is 75 million (25 percent more). This may serve to illustrate the problems associated with considering projects in only a one year perspective.

Although CESAR’s approach has been one involving limited publicity, it has communicated throughout with the MFA both through reporting, in debriefings at the Embassies and with the political level of MFA as well as the Middle East desk. However, in some cases CESAR has proceeded with establishing contacts at high level in the region without the full involvement of the MFA despite the fact that this has been a rationale for MFA in supporting them (CESAR as facilitator and “door” opener). This may be due to a combination of the above; the limited focus on water in MFA as a key issue in the political processes in the region, limited capacity on the part of the MFA and an approach by CESAR which has maintained a high level of confidentiality.

The weakest element in this procedure, however, appears to have been the lack of adequate “checks and balances”:

- The actual beneficiary of the projects should be the parties in the region both for multilateral and bilateral projects. However, there has been no legal framework guiding what was to be supplied between the beneficiary (the regional parties) and the supplier (CESAR). The beneficiaries have not known how much funding has been allocated and have had

no legal framework to challenge what was to be supplied. This has meant that it is only the MFA that has had an opportunity to formally assess project outcomes, ensure adequate quality of services delivered and that funds were used for the intended purposes. Accordingly, MFA has in reality been the “buyer” of the services received by the parties (in kind contribution). To enable an assessment of the quality of services delivered, it would mean that MFA kept a close contact with the parties throughout the process of implementing all the projects, a role which is time consuming and requires substantial technical competence beyond what can be expected internally in a ministry.

Many Ministries and finance institutions of other OECD countries promoting international cooperation apply different approaches:

- In the cases where the Ministry/DFI directly funds the NGO/foundation through a legal framework only between them (not including the beneficiary), external technical assistance has been contracted to support the appraisal of the proposal. Frequent reviews are undertaken with the same technical assistance to ensure that the project is implemented as planned. In these cases the beneficiary is active in tripartite reviews between the Ministry and NGO/foundation and funds are only released on the formal request of the beneficiary which has full information of the total funding applied and its intended use.
- In many cases the funds are not disbursed to the NGO/foundation, the supplier of the services, but rather the beneficiary (in CESAR’s case the relevant party in the region). The legal framework is guided by a tripartite agreement between all three parties or by two separate sets of agreements; one financial

agreement between the Ministry and the beneficiary and a contract for supplies between the NGO/foundation (supplier of services) and the beneficiary.

The former was the procedure applied by MFA, but with limited information to the beneficiary in terms of what was to be provided, no information on the financial resources available and with limited capacity of MFA to fully appraise and follow up project implementation and maintain a dialogue with the benefiting parties.

In 2001 the MFA initiated a process for undertaking this evaluation. When the decision was made many subsequent requests from CESAR for funding were put on hold awaiting the outcome of this evaluation. This has had a significant impact on CESAR which subsequently reduced its staff and engagement in a number of activities to a minimum. Discontinuation of funding from the MFA has led CESAR to establish another foundation in Switzerland, COMPASS, which has continued activities in, among others, Syria, with support from the Government of Switzerland. This means in reality that CESAR is seeking partnership with another government than Norway whereby Norway both loses the opportunity and ability to influence activities it initially funded for the purpose of promoting regional cooperation and “opening doors” to the region as an “alternative channel”. Even though the MFA funds appear to have been fully utilised by CESAR for the projects as per agreement with MFA⁹, it is clear that the portfolio of projects transferred from CESAR to COMPASS was initially promoted with funds from MFA. Accordingly, both the governments of Switzerland and Norway would benefit from sharing information on what activities they are supporting to ensure that they are coordinating their support to CESAR (and COMPASS) to avoid duplication and/or fragmentation of efforts.

In retrospect, it seems obvious that CESAR has created important opportunities for MFA and institutions in other countries in opening doors

9) It has been beyond the scope of this evaluation to conduct a financial audit.

and gaining access to information of importance for foreign policy decision-making. But it is equally obvious that the MFA has been subject to limited guidance at operational level on

how to fully internalise and direct CESAR in its work leaving much of the process to an issue between CESAR and its cooperating partners in the region.

11 Conclusions and Recommendations

11.1 Conclusions

CESAR has initiated and facilitated a number of projects in the region which have served to promote cooperation among the three Core Parties of Israel, the Palestinians and Jordan. These projects complemented rather than duplicated other donor supported activities in the context of the Multilateral Working Group on Water. CESAR has also attempted to bring Syria and Lebanon into the same multilateral process. In addition CESAR has attempted to promote cooperation among three other parties; Turkey, Syria and Iraq.

Even the bilateral projects, such as the Palestinian Water Law, the Pilot Study in Lebanon, and Water Quality Monitoring and Water Management Plan study in Syria, should be viewed in light of the attempt to promote regional cooperation. A special case was the Early Warning System in Jordan which was intended to resolve a potential conflict arising from the fact that water quality deteriorated in the King Abdullah Canal supplying Amman after water from Israel was channelled into the canal following the 1996 peace accord between the two parties.

As far as Israel is concerned the projects have given them an opportunity to gain international political “goodwill” as party to the process of regional cooperation. The actual outcome was not the core issue. For Syria and the Palestinian Authority the more important issue was related to expected outcome; i.e. the potential the projects could have in changing regional imbalance in access to information and enabling a dialogue with other parties in respective processes. For Lebanon the pilot study undertaken was seen as an opportunity to get access to technical assistance to resolve a water management issue. For Jordan emphasis has also been more on resolving water management issues although they did recognise the value added of being party to a multilateral process promoting regional cooperation.

For Norway the main issue was to open an alternative channel into the region as well as having more to offer as follow up to the Oslo process, especially concerning the MWGW projects in the initial years when Norway was strongly promoting the idea of a regional “charter” which materialised as a Declaration of Principles in 1996. From the outset Norway’s interventions in the Middle East have had the Final Status Negotiations as the core objective and most of the projects may be claimed to have been directly and/or indirectly relevant to this objective. The opening up of dialogue with Syria, and potential for promoting regional cooperation including Turkey and Iraq has also given Norway a new role in the region.

The actual outcome of the above projects has been mixed with a number of projects with limited outcome and impact:

- The projects have promoted regional cooperation, but when assessing actual project outcomes, they appear not to have changed regional imbalances in terms of benefits.
- Few projects have actually been institutionalised in the region other than the Regional Waternet and Research Centre, if successfully implemented.
- Some of the projects may have been too ambitious from the outset in terms of their potential contribution to regional cooperation and uncertainty regarding expected outcome. This is first and foremost the case for Atlas I, Atlas II and the Lebanese pilot study.
- The Atlas I did not bring new information to resolve regional imbalances related to information, an outcome which could have been foreseen from the outset. However, it was conducive in introducing CESAR to the MWGW.

- For the Core Parties the Regional Comparative Studies served as comprehensive reference documents and served the purpose of promoting regional cooperation. Eventually the process led to the Declaration of Principles promoted by Norway. The latter is viewed by the parties as first and foremost beneficial to Israel through the political benefit of being a party to regional cooperation and conflict resolution without committing them to any core issues on water resources thus maintaining regional imbalance.
- In the follow up to the DOP, the development of Waternet was pursued as an attempt to promote sharing of water related data and information in the region. Waternet has only been in operation in Israel and has never functioned at regional level.
- With Atlas II the issue is bringing data to the “table” before the parties have formally adopted a process in which they would participate in a dialogue. It provides a reasonable basis for input to a dialogue between the parties, but it remains to be seen if a formal process can be established among the parties.
- With Lebanon, the study was produced and could have formed a basis for decision-making but was never subject to any follow up due to changes in political situation.
- Some projects may be considered to have had adverse impacts like the Early Warning System in Jordan and Water Quality Monitoring System in Syria (Atlas IIb). Because they have not functioned as intended, they have delayed the problem of resolving the need for reliable and timely water quality data.

The less than planned outcomes and limited value added produced by some of the projects can be associated with several factors; like implementation in a very complex and unstable

political environment, and the significant reduction in funding from MFA from 2002. It can also be explained by CESAR’s role as project manager and technical assistance service provider. The technically complex investment projects have failed to be successfully implemented, some even having an adverse impact. The latter finding may not be surprising considering that CESAR is a small research foundation with facilitation and mediation as its main reference, not investment project supervision and management.

Despite the shortcomings of the projects, it may be claimed that, in general, CESAR has been successful as a facilitator in generating cooperation among the Core Parties in the context of MWGW and has also served as a facilitating “door” opener to among others Syria.

CESAR’s approach has been one of bringing science into a political process to foster cooperation. Although the scientific value can be debated and most of the projects resemble regular consultancy assignments as a supervisor, the approach taken has served to bring parties together engaging them in agreed project undertakings (the role of a facilitator).

In its approach CESAR has attempted to play a facilitator in two separate but interlinked processes simultaneously, as well as providing regular services to individual parties, all the time with emphasis on confidentiality to maintain confidence. This has led some representatives of the parties to question CESAR’s integrity and to ask to whom CESAR is actually beholden; that is, to one or some of the parties, Norway or even the US State Department. Information generated through all projects and processes has been the key asset for CESAR, and through its work, CESAR has been at the centre of obtaining, managing and distributing information and financial resources from MFA. This, however, has been in a manner which has not been fully transparent to all parties. This has created a situation of “dependency” on CESAR.

CESAR has been the core link between the parties in the region and the MFA. It has received funding without any competition and the legal framework for implementation of projects has only been between MFA and CESAR. In total this has created a situation of limited transparency for the parties in terms of what CESAR's "mandate" has been and to whom it is accountable.

For the MFA, CESAR has initiated processes and opened doors in line with the initial justification for support promoted by the political leadership in 1995. However, the MFA appears not to have fully utilised the opportunities created, especially after the DOP was announced. With inadequate capacity and procedures for appraisal and follow up of projects undertaken, it has left CESAR in the driver's seat in the process.

11.2 Recommendations

The MFA has developed a new strategy¹⁰ for Norwegian policy related to water issues. It has also taken stock of its different "tracks" in the engagement in the Middle East in which the Israeli – Palestinian conflict is the core issue to be addressed and cooperation with other regional parties is seen in this context. The above may serve as a point of departure for a more articulated role to be assigned to NGOs and consultants like e.g. CESAR, FAFO and others. It means taking the "Norwegian model" beyond recognising that there is a need to mobilise resources outside the MFA if a small nation like Norway is to have a sustained impact in a process.

The above also suggests a need to develop further the procedures for appraisal and monitoring of proposals introduced by the NGOs/consultants and to contract external technical assistance if required, to complement internal capacity. It also means additional capacity and procedures to involve MFA more actively in the political processes generated. It

means that MFA takes the lead, beyond being a financial partner to political processes in which NGOs/consultants are engaged, and that it uses the NGOs/consultants as facilitators.

The unique role NGOs/consultants like CESAR has played has implications for both Norwegian foreign policy in the Middle East and the use of a NGO/consultant as an arm of foreign policy. The following should be more closely considered by MFA (and CESAR) in this process (ref. annex VI for a more detailed discussion and presentation of the issues):

Clear Mandate: From the outset it should be clearly defined by MFA whether an NGO/consultant like CESAR is engaged in track two or track-one diplomacy. It should also be clearly defined whether the NGO/consultant is being asked to play the role of a mediator/negotiator or is undertaking technical assistance programs in order to foster cooperation. Moreover, it should be clarified whether the NGO/consultant is an independent NGO/consultant or a government-sponsored NGO/consultant.

Transparency: The NGO/consultant should make its intentions and activities known to all the parties from the outset. MFA should ensure that the actual relationship of the NGO/consultant with MFA with regard to project "agreements" and actual funding for its activities are understood by the parties themselves all the time.

Public Accountability: The activities of the NGO/consultant should be made available for public scrutiny unless they are defined as state secrets. This would improve the quality of the work because it would be judged in comparison with others seeking to play a similar role.

Clear Institutional Interrelationships: From the outset of the projects, the various institutional interrelationships between the various key players in the process must be defined; these include but are not restricted to MFA, CESAR and the concerned Parties.

10) Norwegian Ministry of Foreign Affairs. 2002. Strategy for Norwegian contribution to the water sector in the Middle East. Memo 26.08.2002. Oslo.

To further improve transparency and accountability when supporting activities of NGOs/consultants like CESAR, FAFO¹¹ and others, the following may be considered:

- In the cases where the MFA funds the NGO/consultant directly through a legal framework between only these parties, the beneficiary should be invited into tripartite reviews between the MFA and NGO/consultant on a regular basis and funds should only be released on the formal request of the beneficiary. This will create ownership and ensure full accountability by the NGO/consultant being supported.
- A procedure even more conducive to creating transparency and ownership for processes and project outcomes would be an agreement between all three parties, or two separate sets of agreements; one financial agreement between the MFA and the beneficiary and a contract for supplies between the NGO/consultant (supplier of services) and the beneficiary.

One additional element in such a procedure would be to improve the basis for appraisal and monitoring. NGO/consultants should be required to produce comprehensive project proposals with a detailed workplan spelling out outputs to be achieved in a given timeframe and with associated costs presented in a multi-annual budget. In return MFA should provide support guided by an agreement with indicative support for a two to three year time frame similar to what is done by other Norwegian Government institutions (like NORAD). This is of particular importance for projects in an unpredictable political environment. Planning, and especially contingency planning, is needed more in unpredictable environments than in stable environments where the future is more predictable.

In terms of the ongoing projects the following should be considered;

- Atlas II has produced basic information which may serve as input to a future dialogue between the parties on the Euphrates and Tigris Rivers. However, the cost of this process appears excessive. Accordingly, the MFA should conduct a detailed review of accounts for the project or commission a special purpose performance audit to determine actual resource use.
- Waternet needs redesign and implementation; technically, to be reactivated with a more modern design and institutionalised through a different approach to implementation. In order to achieve this, it is proposed that MFA in cooperation with the parties conduct a full diagnostic study as the basis for redesign to reactivate the networks with each of the parties and the regional network. Being another of the major projects in financial terms, with a system yet to start functioning despite substantial technical assistance inputs, this project should also be considered as a candidate for a detailed review of accounts or a special purpose performance audit.
- There is a need to develop a comprehensive "Business Plan" for the Regional Waternet and Research Centre with a clearer vision, mission, planned activities and actual costs through a 5 year timeframe, taking into account the required resources from each of the parties to sustain it.
- Both the Water Quality Monitoring System (Atlas IIb) in Syria and Early Warning System in Jordan should be subject to external and independent diagnostic studies to determine how they can be successfully installed and maintained by the recipient institutions. The studies should indicate the current status, required input for full implementation and terms of reference for a subsequent

11) In comparison, according to data from MFA and NORAD, FAFO has received 99 million NOK from MFA for projects in the Middle East since 1993.

project to fully commission them. This implies that MFA finances an external and independent study in cooperation with the respective parties and, through a competitive process, identify potential suppliers to fully implement them.

Finally, MFA reduced its support to ongoing projects and processes in 2002 due to this evaluation. This decision had a significant impact on the process of interlinked projects that were

subjects of this evaluation. Instead of waiting for the outcome of the evaluation (ex. post), MFA made a decision to reduce funding prior to the evaluation (ex ante). It would have proven more beneficial to this evaluation (and will be so to others) if decisions to stop funding awaited the outcome of the evaluation, even though the reduced funding makes the dependency on external funding very visible for an assessment of financial sustainability.

Annex I – Terms of Reference

Background

Norway has for a decade been involved in the peace process in the Middle East, both as facilitator during the first bilateral talks, as chairman of the AHLC (Ad Hoc Liaison Committee) meetings and in the multilateral work under the various working groups established pursuant to the Madrid conference in 1991. The bilateral track established in Madrid was designed to concentrate on the political issues of territorial control and sovereignty, border demarcations, security arrangements and the political rights of the Palestinians. While the bilateral track was meant to solve problems inherited from the past, the multilateral track was focused on issues that could shape the future. A framework for the multilateral track was established in Moscow in 1992. Five multilateral working groups were set up. These were intended to examine a range of technically oriented issues that extend across national boundaries, the resolution of which is essential for long-term regional development, stability and security in the region. It was recognised that management and sharing of the scarce water resources is one of the main regional issues that needs to be resolved in order to obtain a sustainable and lasting solution to the Middle East conflict. The Multilateral Working Group on Water was thus one of the five groups established to supplement and reinforce the bilateral track.

Centre for Environmental Studies and Resource Management (CESAR) is an independent, non-profit making foundation based in Oslo. CESAR's activities include technical assistance, research, conflict assessment, training, facilitation, mediation, and advice in negotiation processes. Since 1992 CESAR has been involved in water related processes in the Middle East, supported by the Norwegian Ministry of Foreign Affairs (NMFA) and the Norwegian Agency for Development Cooperation (NORAD).

Originally, CESAR's involvement was through the United Nations, as part of the Norwegian delegation to the multilateral work group on water issues in 1992. Since the breakthrough in the peace negotiations in 1993, CESAR has continued its efforts towards resolving regional water resource conflicts and water quality management with the financial support of the NMFA.

Since 1994, the NMFA has supported CESAR's initiatives in different Middle Eastern countries with approximately NOK 60 mill. Support has been given to activities within five main areas, including:

- Waternet, an internet based database for water information involving Jordan, Israel, and the Palestinian Authority (PA). As part of this effort, CESAR published the report "Water Resources Data for Decision Making in the Middle East" (previously called Atlas I) in 1996.
- The Euphrates initiative (also called Atlas II) initiated in 1996–97, involving Turkey, Syria and Iraq.
- Assistance with the coordination of national water resource management in Syria (Atlas IIb).
- Assistance with the development and improvement of water management in the Bekaa valley in Lebanon.
- Establishment of the early warning system for water pollution in Amman, Jordan.

In Israel, the Palestinian Authority and Jordan, CESAR has developed standards for negotiations about water. As a next step, a communal internet-based database (Waternet) has been developed, intended to enable the three parties to share information about water. The Waternet

initiative was linked to the Madrid process. An extension of Waternet has resulted in a regional water research centre, located in Amman, Jordan. The purpose of the centre is to strengthen the scientific cooperation between the parties and thus supposedly reduce the likelihood of conflict connected to mutual water resources.

The Euphrates initiative focuses on water resource issues between Turkey, Syria and Iraq (Atlas II). Like Waternet, this project aims to create a trilateral contract establishing a basis for the distribution of water resources between the countries as well as a basis for the resolution of issues of responsibility connected to water pollution, based upon international law.

CESAR is also involved in several bilateral initiatives in Jordan, Syria and Lebanon. These involve the development of water monitoring systems: in Jordan on the King Abdullah Canal, the Syrian side of the Yarmouk River and on the Euphrates River and in Lebanon in the Bekaa Valley on the Zahle River. In Syria, this water quality monitoring system (Atlas IIb) is also accompanied by a plan for national water management. The establishment of such early warning monitoring systems not only involves the establishment of the monitoring systems but also training of staff to ensure the continued operation of the facilities.

In a region where the political situation offers few guarantees of actual results, CESAR's initiatives have been supported by the NMFA in view of the latter's understanding of CESAR's ability to create relationships of trust with local authorities and institutions, its technical expertise on water, and the political importance of its activities. With reference to the sensitivity of water issues in this region, CESAR has emphasised confidentiality in its relationship with the NMFA, as well as the outside world.

In order to develop a broad understanding of CESAR's activities three considerations must be taken into account: the strategic significance of water in Middle Eastern politics, the areas of

hydrology and hydrogeology, and indirectly, development cooperation. The emphasis on strategic security also implies that the resolution of water issues must be linked to peace building efforts. These considerations must be balanced in relation to each other throughout the evaluation of CESAR's activities.

Objectives of the evaluation

- To assess the relevance of CESAR's work as part of Norwegian efforts to facilitate the peace process in the Middle East.
- To provide an overview of and assess the financial support to CESAR with reference to projects supported by both the NMFA, NORAD, other governments, as well as industrial partners.
- To make recommendations concerning future Norwegian involvement in Middle Eastern water issues, including the role of CESAR.

Scope of work

The evaluation will include, but not necessarily confine itself to, the following items:

- Peacebuilding:

To assess CESAR's involvement in the wider context of the Israeli/Palestinian peace process, both multilaterally and bilaterally, focusing on the experience of the stakeholders, and to judge particularly whether Waternet has contributed to establish and maintain contact between the relevant water authorities and to further future cooperation on water issues in the region.

- Hydrology/hydrogeology:

To assess the quality of CESAR's hydrological/hydrogeological work. To provide an assessment of Atlas I, Atlas II, and the Waternet, as well as CESAR's bilateral work (in

Jordan, Lebanon, Syria and Iraq). In particular, to assess CESAR's Water Atlas of the Middle East: "Water Resources Data for Decision Makers in the Middle East" as well as its other publications.

- Technical assistance:

To assess the value of CESAR's water monitoring systems (in Syria, Lebanon and Jordan) in terms of sustainability and local ownership. As part of this, to assess CESAR's training programs and their skills in project management.

- Cost-efficiency:

To assess the cost-efficiency of CESAR's projects in relation to the cost-efficiency of similar projects.

- Cooperation:

To assess CESAR's initiatives in the Middle East in the context of other multilateral and bilateral water initiatives, and particularly EXACT, in terms of cooperation and overlap. This should also include a brief assessment of the links between relevant CESAR projects and NORAD's support of the Palestinian Water Authority (PWA).

- Communication and reporting:

An overview and assessment of CESAR's project reports to the NMFA should also be presented, as well as an assessment of CESAR's cooperation and communication with the NMFA and NORAD and how this could be improved.

- Recommendations:

To make recommendations regarding future involvement by the NMFA in water issues, including the possible future role of CESAR, based upon an analysis which includes both peacebuilding, hydrological/hydrogeological, and developmental perspectives. To assess the possible consequences for the NMFA of

CESAR being sponsored by other states or foreign NGOs.

Methodology

The study will comprise:

- A desk study of relevant archival information from CESAR, of CESAR's contact with NMFA, and archival material from the NMFA.
- Documentary and literary review of relevant information sources. Fieldtrips to Norway, United States (Washington D.C.), Israel, Gaza and the West bank, Jordan, Lebanon and Syria. Interviews with past and present relevant partners and stakeholders in these countries will be necessary. During this phase the evaluation team should stay in close contact with the embassies. Interviews will include representatives of the NMFA as well as other ministries with whom CESAR has interacted in and outside the Middle East, multilateral organisations, NGOs, trade associations, project partners and universities. In the Middle East, these fieldtrips should also include visits to local project sites, interviews with local NGOs and local expertise on fields relevant to CESAR's initiatives.

Process

Some of the peace process related activities that CESAR has been involved in are dependent upon confidentiality. Throughout the evaluation process there will be a need for communication with the NMFA to clarify issues relating to confidentiality and public disclosure of the report. Final assessment and decisions regarding issues of confidentiality will be made when the draft report is presented. Throughout the evaluation process, the evaluation team should maintain continuous communication with the NMFA and relevant embassies, in order to exchange information on the process and discuss preliminary findings.

Requirements of the evaluation team

- The team must have thorough knowledge and experience of culture and politics in the Middle East.
- Team members must be able to qualify for a relevant security clearance for working in the archives of NMFA.
- One of the team members should be able to document a qualification as well as professional experience within the areas of hydrology, hydrogeology and hydro-political issues.
- The team should also have proven experience and understanding of international politics, security politics, and peace building.
- Team members responsible for writing the report must have excellent English drafting skills.

Tenders should include budgets with estimates of staff time, including preparation, drafting and finalisation of the evaluation, and travel costs.

Time frame and reporting

The main results of the study shall be presented in a report of no more than 40 pages. The team will be responsible for the validity of the data included, for the analysis and for the overall quality of the report. The report will contain all major findings, and will include recommendations.

The study will commence in November 2002. An inception report will be submitted for discussion with the Ministry (time to be agreed upon). A draft report will be submitted no later than March 2003. The relevant parties will comment on the draft report before the final version is produced. The technical quality of the final report will be such that it can be printed without any further rewriting or editing.

Annex II – List of Main Persons Consulted*

*) List deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

Annex III – List of Reference Documents

In addition to various internal memos, emails and letters reviewed on files in the Royal Ministry of Foreign Affairs in Oslo, the Royal Norwegian Embassies in Damascus, Tel Aviv and Amman, and the Representative Office to the Palestinian Territories as well as protocols from board meetings in CESAR and letters and internal memos made available by various institutions consulted, the following have constituted some of the main reference documents for the evaluation.

Allan, J.A. 2002. *Comments on the study of the Euphrates River and Tigris River, Water Resources Management, Volume I – Water Resources Analysis*. Comments Commissioned by CESAR.

Amery, H.A. 1993. *The Litani River of Lebanon*. Geographic Review, Vol. 83 (3), July. Pp.229–237.

Bagis, A.I. (editor) 1994. *The Euphrates and Tigris Watercourse Systems: Conflict or Cooperation?* Turkish Review of Middle East Studies, Vol. 8, pp. 215–233.

Bagis, A.I. 1994. *Water as an element of Cooperation and Development in the Middle East*. Ankara, Ayna Publications.

Beaumont, P. 1978. *The Euphrates River – An International Problem of Water Resources Development*. Environmental Conservation, 5, 21, spring: pp. 35–43.

Beaumont, P. 1994. *The Myth of Water Wars and the future of Irrigated Agriculture in the Middle East*. International Journal of Water Resources Development, Vol. 10(1): pp. 9–22.

Berber, F.J. 1959. *Rivers in International Law*. London: Stevens and Sons.

Bilen, Ø. 1993. *A Technical Perspective on the Euphrates – Tigris Basin*. Foreign Policy, Vol. 18 (3–4), pp. 129–145.

Bolukbasi, S. 1993. *Turkey Challenges Iraq and Syria: The Euphrates Dispute*. Journal of South Asian and Middle Eastern Studies, Vol. 16(4) Summer : pp 9–32.

Briscoe, J., Salas, P.A., Pena T.,H. 1998. *Managing Water as an Economic Resource: Reflections on the Chilean Experience*. Environmental Economics Series, World Bank, Washington D.C.

Brett, M.T., Palmer, R.N. and Ryu, J.H. 2002. *Water Quality Simulation Model for the King Abdullah Canal in Jordan*. University of Washington, Dept. of Civil and Environmental Engineering, Seattle, USA.

CESAR. (undated) *CESAR's Profile: Development and Activities*. Oslo, Norway.

CESAR. (undated). *The Development of CESAR and Its Activities*. Oslo, Norway.

CESAR. 1995. *Water Laws and Water Institutions in the Middle-East – Comparative Matrix – Regional Comparative Study – The Hashemite Kingdom of Jordan, Palestine Authority, State of Israel*. Oslo.

CESAR. 1996. *Brief Summary of the Multilateral Water Resources Working Group (MWRWG) of the Multilateral Peace Talks*. Requested by the Royal Norwegian Ministry of Foreign Affairs. Oslo, Norway.

CESAR. 1997. *Water Resource Data for Decision Making in the Middle East*. Oslo, including data on CD-rom.

CESAR. 1997. *Waternet. Co-operation on Water Related Matters between Jordan, Israel and PLO for the Benefit of Palestinian Authority. Terms of Reference – Waternet – Local*. Oslo.

CESAR. 1997. *Waternet. Regional Centre, Amman. Memorandum concerning the task of the Waternet Local Nodes*. Oslo.

CESAR. 1998. *Background, organisation and activity*. Oslo.

CESAR. 1998. *Report from CESAR's Expert Team to Jordan on the serious Water Contamination in Amman*. Oslo.

CESAR. 1998. *Detailed Project Budget – Water Supply Amman*. Oslo.

- CESAR. 2000. *Water Resources Management in Lebanon – A Case Study of the Bardawni River*. Draft Report 23/08/2000. Oslo.
- CESAR. 2000. *Application for funds to the Middle East Projects in 2001*.
- CESAR. 2000. *Application for funds to the Model/Pilot Equipment for Water Control, Middle East*. (Letter to Ministry of Foreign Affairs), Oslo.
- CESAR. 2000. *Application for funds to the Regional Water Action Plan*.
- CESAR. 2000. *Application for funds – WATER-NET Project*.
- CESAR. 2000. *King Abdullah Canal, Jordan – Water Quality Research Program (Preliminary)*. Oslo.
- CESAR. 2000. *Water Quality Simulation Model for King Abdullah Canal in Jordan – Preliminary Proposal*. Oslo.
- CESAR. 2000. *King Abdullah Canal, Jordan – Long term changes in water quality – Preliminary Study Plan*. Oslo.
- CESAR. 2000. *Application for funds – Strengthening of Water Resources Management, King Abdullah Channel, Jordan*.
- CESAR. 2001. *The Euphrates River in Syria – Water Quality Monitoring System (WQMS) (Atlas Iib): Achievements and Status per 31 October 2001. Recommendations for the Successful Completion of the Project. (Appendix 3)*
- CESAR. 2001. *Memo on Tvedt's and Berg's report on foreign policy and water in the Middle East.*, Oslo.
- CESAR. 2001. *Memo on applications for funds (3) – Water Resources Management, Jordan*, Oslo.
- CESAR. 2001. *Memo on the Palestinian Authority's and Israel's expressed desire to ratify the Waternet Center's Agreement*, Oslo.
- CESAR. 2001. *Water Supply Amman – Water Quality Monitoring System – Take-over Protocol*.
- CESAR. 2002. *Atlas Iib: Visit 25–31 January 2002 – Minutes of Meetings. Technical Inspection Notes*.
- CESAR. 2002. *The Euphrates River and the Tigris River – Water Resources Management (Atlas II Draft Final Report Dated 31. July 2002, Oslo)* in three volumes:
- Volume I: *Water Resources Analysis*.
- Volume II: *Technical Derivatives from the Main Report that may be Applied in a Water Regime Framework*.
- Volume III: *CD with data*.
12. July 2000 Version. *An International Reference Study*
12. September 2000 Version. *River Basin Modelling Report*
- CESAR. 2002. *Interim report for 2002 related to application for additional funds to the re-establishment of the IT System – Waternet Project – Multilateral Peace Process in the Middle East*.
- CESAR. 2002. *Application for additional Funds to the re-establishment of the IT System – Waternet-project – Multilateral Peace Process in the Middle East*.
- CESAR. 2002. *Servicing and Upgrading the Early Warning System, Jordan. Visit Memorandum from CESAR's team visit*.
- CESAR. 2002. *Application for funds – continuation/interim period – Waternet Project – Multilateral Peace Process Middle East*, Oslo.
- CESAR. 2002. *Memo. Report – Consultations with US State Department on Waternet and CESAR's UNEP involvement*. Oslo.
- CESAR. 2003. *Water Management in Syria – Strategy for National Research and Development Programme*. Oslo.
- CESAR. 2003. *Application for funds – Bilateral initiative regarding water resources management in Syria – Project initiation*. Oslo.

- Chalabi, H. and Majzoub, T. 1995. Turkey, the waters of the Euphrates and public international law. *Water in the Middle East, Legal, Political and Commercial Implications*, ed. J.A. Allen and C. Mallat. London: Taurus Publ.
- Corbin, Jane 1994. *Gaza first – the secret Norway channel to peace between Israel and the PLO*. Bloomsbury, London.
- Dobinson, Kristin. 1995. *Mediatory Power and Small States: The Case of Norway*. University of Kent at Canterbury, MA in International Conflict Analysis.
- EAWAG. 2003. *The Euphrates River and Tigris River Water Resources Management – Review of Report on Water Resources analysis, Volumes I, II, and III*. Review commissioned by Compass, Switzerland.
- Economic Commission for Asia and the Far East. *Water Legislation in Asia and the Far East, part I*, Water Resources Series No. 31 and part 2, Water Resources Series No. 35.
- Economist. 1995/96. *Water in the Middle East – As thick as Blood*. Pp.57–59, December 23. 1995–January 5. 1996.
- Egeland, Jan 1994, *Norway's Middle East Peace Channel – an Insider's View*, Security Dialogue, vol. 25, no. 3.
- Global Water Intelligence. 2002. *Jordan unveils investment plans*.
- Gøner, S. 1997. *The Turkish-Syrian War of Attrition: The Water Dispute*. Studies in Conflict and Terrorism, Vol. 20(1), Jan–March: pp. 105–116.
- Gruen, G. E. 1993. *Turkey's Potential contribution to Arab-Israeli Peace*. Turkish Review of middle East Studies, Vol. 8, pp 179–214
- Hof, F.C. 1997. *The Water Dimension of Golan Height Negotiations*. Middle East Policy, Vol. 5 (2), pp. 129–141
- Interconsult. 2002. *Response to the Syrian Comments on 3 CESAR Reports (Atlas II reports), with Appendix 1: Scanned copies of the Syrian Comments of September 12. 2000*.
- Interconsult AS and CESAR. 1997. *Project Agreement between Interconsult and CESAR on ATLAS II*. Oslo.
- International Law Association. 1967. Helsinki Rules on the Uses of the Waters of International Rivers. *Report of the Fifty-Second Conference Held at Helsinki, 477*.
- International Law Association. 1994. *Report of the International Law Commission*. UN GAOR, 49th Sess., Supp. No. 10, 195, UN Document A/49/10.
- Israeli Ministry of Foreign Affairs. 1999. *From Contention to Cooperation: A Case study of the Middle East Multilateral Working Group on Water Resources*. The Peace Process, Guide, The Multilateral Negotiations.
- Israeli Ministry of Foreign Affairs. 1999. *Regional Environmental Cooperation. Chapter 1.: Regional Environmental Management Frameworks – Environmental Management of the East Mediterranean Coastline*. The Peace Process, Regional Projects.
- Israeli Ministry of Foreign Affairs. 1999. *Guide to the Mideast Peace Process. The Madrid Framework*. The Peace Process, Guide.
- Israeli Ministry of Foreign Affairs. 1999. *The River Jordan. Introduction*. Volumes 1–2: 1947–1974.
- Israeli Ministry of Foreign Affairs. 1999. *Declaration of Principles on Interim Self-Government Arrangements September 13, 1993*. The Peace Process, Reference Documents.
- Israeli Ministry of Foreign Affairs. 2001. *Letter to CESAR regarding Waternet*. Jerusalem.
- Israeli Ministry of Foreign Affairs. 2001. *Letter to Norwegian Ministry of Foreign Affairs regarding Waternet*. Jerusalem.
- Israel-Palestine Liberation Organisation. 1993. *Declaration of Principles on Interim Self-government Arrangements, 13 September 1993, Washington DC.*, 32 I.L.M. 1525.
- Israel-Jordan. 1993. *Common Agenda for the Bilateral Peace Negotiations*, 14 September 1993, Washington, 32 I.L.M. 1522.

- Israel-Jordan. 1994. *Treaty of Peace between the State of Israel and the Hashemite Kingdom of Jordan, 26 October 1994*, Arava/Araba Crossing Point, 34 I.L.M. 1995, 43.
- Israel-Palestine Liberation Organisation. 1994. *Agreement on the Gaza Strip and the Jericho Area, 4 May 1994, Cairo*, 33 I.L.M. 622 (1994).
- Israel-Palestine Liberation Organisation. 1995. *Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip, 28 September 1995*, Washington D.C., 36 ILM 551 (1997).
- Israel/Jordan/Palestinian Authority. 1996. *Joint Statement – Declaration of Principles for Co-operation on Water-related Matters and New and Additional Water Resources*, June 12, 1996, Oslo, Norway.
- Israel-Jordan-Palestinian Authority. 2003. *Agreement on the Establishment of the Regional Waternet and Research Centre between the State of Israel, The Hashemite Kingdom of Jordan and the PLO for the Benefit of the Palestinian Authority*.
- Jones, S. and Wesstad, K. 2001. *Visit Report – Jordan 23rd February to 1st of March 2001*. Oslo, Norway.
- Jordan Ministry of Water and Irrigation and CESAR. 2001. *Agreement between Zai Water Treatment Plant, representing Ministry of Water and Irrigation for the operation of the monitoring system. Progress Report*. Oslo, Norway.
- Jordan Ministry of Water and Irrigation. 2001. *Letter to Norwegian Ministry of Foreign Affairs regarding Waternet*. Amman.
- Jordan Ministry of Water and Irrigation. 2002. *Letter to CESAR concerning Early Warning System – King Abdullah Canal*. Amman.
- Jordan Ministry of Water and Irrigation. 2002. *Letter to CESAR concerning King Abdullah Canal Monitoring System*. Amman.
- Jordan Ministry of Water and Irrigation. 2002. *Letter to CESAR concerning Action Plan for King Abdullah Canal Monitoring System*. Amman.
- Kibaroglu, A. 1994/95. *Prospects for co-operation in the Euphrates-Tigris River Basin*. Turkish Review of middle East Studies. No. 8, pp. 137–156
- Kliot, N. 1994. *Water Resources and Conflict in the Middle East*. London: Roudledge.
- Kolars, J.F. and Mitchell, W. 1991. *The Euphrates River and South East Anatolia Development Project*. Carbondale, Ill.: Illinois University Press.
- Kolars, J.F., T. Naff and K. Malouf. 1993. *The Water of the Litani in Regional Context*. Centre for Lebanese Studies, Oxford.
- Leitner, Gordon F. (ed.) Undated. *Breaking the Cost Barrier for Seawater Desalting*. Desalination & Water Reuse, Vol. 8/1.
- Middle East Reporter. 1994. *Lebanon Water: How much of it is used and how much Wasted*. Vol. 72. June 18., pp.14–16.
- Mintville, J.V. 2000. *Strategic Planning in Preventive Diplomacy*. Discussion Draft. Facing Ethnic Conflicts 14–16 Dec. 2000. Centre for Development Research (ZEF). Bonn.
- Morris, M.E. 1997. *Water and Conflict in the Middle East: Threats and Opportunities*. In Studies in Conflict and Terrorism, Jan–March 97, Vol. 20 Issue 1, p.1–13.
- Multilateral Working Group on Water Resources. 1996. *Declaration on Principles for Cooperation on Water-related Matters and New and Additional Water Resources*.
- Multilateral Working Group on Water Resources. 1998. *Entry from Directory of Selected Jordanian Water-related Institutions*. Water Data Banks Project, Executive Action Team (EXACT).
- Multilateral Working Group on Water Resources. 2000. *Middle East Peace Process. Second World Water Forum*, 17–22 March, The Hague.
- Multilateral Working Group on Water Resources, Executive Action Team (EXACT). 2002. *Water Data Banks Project*.

- Multilateral Working Group on Water Resources. 2002. *Regional Water Data Banks Project. Middle East Peace Process*.
- Naff, T. and Matson, R.C. 1984. *Water in the Middle East: Conflict or Cooperation*. Boulder, Colo.: Westview Press.
- Norwegian Ministry of Foreign Affairs. 1999. *Norway's involvement in the peace process in the Middle East*. Oslo.
- Norwegian Ministry of Foreign Affairs. Background to Norway's Role in the Peace Process. *Summary*. Oslo, Norway.
- Norwegian Ministry of Foreign Affairs. 2001. *Norwegian involvement and views – the Israeli-Palestinian Conflict*. Draft memo. Oslo.
- Norwegian Ministry of Foreign Affairs. 2002. *Strategy for Norwegian contribution to the water sector in the Middle East*. Memo 26.08.2002. Oslo.
- Norwegian Ministry of Foreign Affairs. 2003. *Waternet – Signing of Agreement*. Memo. Oslo.
- Palestine Delegation. (undated) *Statement to the Middle East Peace Multilateral Negotiations, Position Paper Presented to the Working Group on Water (1st – Seventh Rounds)*.
- Palestine Delegation. *Palestinian Statements to the Middle East Peace Multilateral Negotiations First Round Vienna 1992, Second Round Geneva 1993, Third Round China 1993, Fourth Round Jordan 1994, Sixth Round Greece 1994, Seventh Round Jordan 1995 and Eighth Round Tunis 1996*.
- Palestinian Hydrology Group for Water and Environmental Resources Development. 2001/2002. *Annual Report 2001/2002*. Ramallah.
- Palestinian Hydrology Group for Water and Environmental Resources Development. 2003. *Waterwatch. No. 6 February 2003*. Ramallah.
- Palestinian Water Authority. (undated) *Statement of Mission, Values, Principles, Goals and Strategy*.
- Palestinian Water Law, First Draft, 1998.
- Palestinian Water Law, Second Draft, June 1999.
- Palestine Water Law No. 2/2002.
- Republic of Lebanon, Ministry of Agriculture. 1998: *Bilateral Cooperation between Lebanon and Norway – Project Proposal for a better Decision Support System for Bekaa Valley and Litani Catch Basin*.
- Salameh, E. and Bannayan, H. 1993. *Water Resources of Jordan – Present Status and Future Potentials*, Friedrich Ebert Stiftung and Royal Society for the Conservation of Nature, Amman.
- Salameh, E. 1996. *Water Quality Degradation in Jordan*. Friedrich Ebert Stiftung and Royal Society for the Conservation of Nature. Amman.
- Trollaldalen, J.M. 1991. *International Environmental Conflict Resolution (IECR) The Role of the United Nations*.
- Trollaldalen, J.M. 1992. *International Environmental Conflict Resolution – The Role of the United Nations*. World Foundation for Environment and Development/Oslo/Washington D.C, UNITAR/Geneva/New York, NIDR/Washington D.C.
- Trollaldalen, J.M. 1997. *Troubled Waters in the Middle East: the process towards the first Regional Water Declaration between Jordan, Palestine Authority and Israel*. Natural Resources Forum, UN.
- Trollaldalen, J.M. 1998. *Water Laws, Water Institutions and Water Supply Economics, in the Arab Republic of Syria and the Republic of Lebanon*, (CESAR, Oslo, Norway).
- Trollaldalen, J.M. 1998. *Water Laws, Water Institutions and Water Supply Economics, in the Hashemite Kingdom of Jordan, the Palestinian Authority and the State of Israel*, CESAR, Oslo, Norway.
- Trondalen, J.M. 2001. *A Security Perspective – Water Resources in the Middle East – Armed Conflict or Cooperation*. Speech, Oslo Military Society. Oslo, Norway.

- Trondalen, J.M. and Gjessing, J. 2003. *Input to the Evaluation Team*. Oslo, Norway.
- Trondalen, J.M. 2003. *Growing Controversy over "Wise International Water Governance"*. Speech given at the Plenary Session of the 13th Stockholm Water Symposium August 14th, 2003. Stockholm, Sweden.
- Turkish Ministry of Foreign Affairs. 1995. *Water Issues Between Turkey, Syria, and Iraq*.: Ministry archives, Ankara.
- Tvedt, T. and Berg, K.G. 2001. *Utenrikspolitikk og vann i Midtøsten*. (Foreign policy and water in the Middle East). University of Bergen. Bergen, Norway.
- Tvedt, T. 2003. *Utviklingshjelp, utenrikspolitikk og makt – Den norske modellen*. (Aid, foreign policy and power – the Norwegian Model). Gyldendal, Oslo, Norway.
- UN (United Nations). 1963. *Legislative Texts and Treaty Provisions Concerning the Utilisation of International Rivers for Other Purposes than Navigation*. UN Doc ST/LEG/SER B/12, p.376.
- UN (United Nations). 1997. *United Nations General Assembly Resolution A/51/869*.
- UNEP (United Nations Environment Program). 2003. Division of Early warning and Assessment (DEWA). *Monitoring Environmental Change in the Tigris and Euphrates Basin*. UNEP News Release.
- U.S. Department of State. 2003. *Roadmap to Solution of Israeli-Palestinian Conflict*. International Information Programs.
- U.S. Geological Survey. 1998. *Overview of Middle East Water Resources – Water Resources of Palestinian, Jordanian and Israeli Interest*. Jordanian Ministry of Water and Irrigation, Palestinian Water Authority, Israel Hydrological Service. Upon request from the Executive Action Team, Middle East Water Data Banks Project.
- Waage, Hilde Henriksen, 2000. *Norwegians? Who needs Norwegians? Explaining the Oslo Back Channel: Norway's Political Past in the Middle East*. Evaluation Report 9/2000, Norwegian Ministry of Foreign Affairs, Oslo, Norway.
- WaterNet Steering Group. 1997. *Agreed Minutes Waternet Steering Group Meeting, Oslo 28.08.97*. Oslo, Norway.
- WaterNet Steering Group. 2002. *Minutes from the WaterNet Steering Group Meeting, Oslo Oct. 10th, 2002*. Oslo, Norway.
- WaterNet Steering Group. 2000. *Letter of Invitation to become a Partner of the Regional Waternet and Research Centre*.
- Wesstad, K. 2001. *The Hashemite Kingdom of Jordan – The Early Warning System Project, The Water Quality Research Project and the Water Quality Simulation Project. Achievements and Status per 31 October 2001, Recommendations for the Successful Completion of the Projects*. Interconsult AS, Oslo.
- Wesstad, K. 2001. *The King Abdullah Canal – Water Quality Monitoring System in Jordan. Description of Follow-up of KAC Monitoring System after Technical Handover in March 2000*. Interconsult, Oslo, Norway.
- Wesstad, K. 2001. Memo from visit. *The Water Quality Research Program WQRPKAC*. Oslo, Norway.
- Winter-Hjelm, T. 2003. *Resolution of International Water Resources Conflicts*. Draft introduction, Master Thesis, Department for Geography, University of Oslo, Norway.
- World Foundation for Environment and Development. *History of WFED*.
- World Resources 2000–2001. *Managing the Mekong River: Will a Regional Approach Work?*

Annex IV – Overview of CESAR Projects in the Middle East

Project Description/Planned Objectives	Assessment
<p>Water Atlas I (1992 – 1995)</p> <p>Total MFA funding: 0.6 million NOK. This does not include funding to WFED for the same project (before it was transferred to CESAR).</p> <p>Objectives and planned outputs: mapping of the water resources in Israel, Palestine and Jordan in one GIS map based on researching available public information on water resources in Israel, WB/Gaza and Jordan. Followed an initial UN sponsored training course for Palestinians undertaken by WFED, which revealed lack of reliable water data in PA.</p>	<p>Relevance: As reliable and accurate information is crucial to the understanding of the water resources regime and behaviour in the region, the project's concept is relevant to promote regional cooperation. At the time the project started the political will was there and accordingly CESAR have assumed that data could be easily obtained. However, the project was too ambitious in terms of the quality of the data, which have created high expectations on the side of the PA and Jordan.</p> <p>Impact and Effectiveness: The data was mostly obtained from secondary sources and therefore the output was never used. CD-ROM maps cannot be accessed. The quality of the data is not appropriate as a tool for decision-making however has been used as reference in some research activity in Israel.</p> <p>Efficiency: Low cost but also limited value of output to the parties.</p> <p>Sustainability: The project has not been institutionalized in order to ensure updating the information of the Atlas as and when situation changes.</p>

Project Description/Planned Objectives	Assessment
<p>Regional Comparative Studies: Israel, Palestinian Authority, Jordan, Syria and Lebanon (1995 – 1997)</p> <p>Total MFA funding: 0.3 million NOK. This does not include funding to WFED for the same project (before it was transferred to CESAR).</p> <p>Study to compare the water related laws, institutions and economics in the region. The objective of the studies was to improve the Parties' understanding of those water related matters.</p> <p>For Israel, Palestinians and Jordan the aim was to use the comparative studies as an input for the DOP. As for Syria and Lebanon the objectives as stated were purely academic. The initial draft study of Israel, PA and Jordan was conducted under the framework of the MWGW. Later published by CESAR (1997). Same study produced for Lebanon and Syria due to initial rejection by Syria to participate in the overall process (accordingly separate trilateral and bilateral studies).</p>	<p>Relevance: Relevant in terms of creating dialogue among the Parties and therefore enhancing regional cooperation. It constituted the first serious attempt to compile information on water laws, institutions and water economics in the region which responded nicely to the objectives of the study.</p> <p>Impact and Effectiveness: The outputs of the study are considered to be a good foundation for further studies and research in the field of water laws and regulations in the region. A matrix for comparison was developed but not included in the official publication. The matrix is claimed to be the basis for the formulation of the Declaration of Principles (common Denominators and components for international cooperation). The confidentiality of the process limited the impacts of this dialogue and reduced the chances of information dissemination. Additional steps have to be made in order to comprehensively understand practice in the region and the best practice that could be recommended for all Parties in the future.</p> <p>Efficiency: The cost efficiency of this project can not be assessed since there were no data made available to the team on amounts transferred from MFA to WFED before the project was transferred to CESAR.</p> <p>Sustainability: There is a general weakness in the institutionalisation of the process. CESAR did not help transferring ownership of the products to the relevant parties. Based on the information compiled from the missions it is evident that CESAR did not succeed in fully involving the relevant institutions in adopting and having ownership of the products.</p>

Project Description/Planned Objectives	Assessment
<p>Waternet/Regional Waternet and Research Centre (1997 – ongoing)</p> <p>Total MFA funding as of 2002: 21.8 million NOK.</p> <p>The purpose of the project was to develop a computerised information system for water related information for sharing information between Israel, PA and Jordan as a tool for promoting regional cooperation.</p> <p>Waternet has three main components:</p> <p>Waternet Local – a computerised information system within the borders of each party.</p> <p>Regional Waternet – linking national networks together for a shared regional information network.</p> <p>The Research Centre in Amman is supposed to develop and maintain Waternet and to stimulate cooperation on water-related matters.</p>	<p>Relevance: Promoting regional cooperation by sharing information. The first of the projects under the framework of the Multilateral Working Group that will institutionalise regional cooperation among the parties promoting a longer term commitment for cooperation by jointly supporting and operating a regional centre.</p> <p>Impact and Effectiveness: Waternet is only functional in Israel, has never been operational in the PA and ceased to function due to technical problems in Jordan. Accordingly it has never functioned as a regional network for exchange of information. The technology that was employed is now outdated, and needs substantial input to be reactivated as a web-based network. The Regional Centre is under establishment but will have limited relevance without a functioning Waternet.</p> <p>Efficiency: The project's costs consist of high volume of technical assistance and consultancy cost compared to its operational performance. Used external consultants for all inputs including translation and input of report abstracts entered in the local databases. Current cost per translated abstract is reasonable (1300 NOK per report of 17200 reports in the system of which 16000 in Israel), however, the system only functions in Israel, not in Jordan and PA, nor at the regional level.</p> <p>Sustainability: No commitments were made by the parties to sustain Waternet or the Regional Centre. All inputs are to be funded by Norway with only external consultancy input. No local expertise available within the various institutions to operate and maintain system, thus totally relying on continued funding from Norway and external consultants.</p>

Project Description/Planned Objectives	Assessment
<p data-bbox="197 342 770 450">Early Warning System, Research Component and Simulation Model King Abdullah Canal – Jordan (1998 – ongoing)</p> <p data-bbox="197 474 683 506">Total MFA funding: 19.3 million NOK.</p> <p data-bbox="197 548 783 763">Project Objectives and Planned outputs: Following request by Jordan the project aimed at establishing a monitoring system along canal. Supply of hardware, management and supervision. Development of water quality simulation model.</p>	<p data-bbox="858 306 1444 450">Relevance: The project concept and objectives are relevant to promote regional cooperation although it was perceived to be a disaster prevention project from the Jordanian authorities.</p> <p data-bbox="858 495 1444 786">Impact and Effectiveness: The System was installed including the development of the simulation model, which theoretically is considered appropriate. The model has so far not been applied. Some training was conducted but is not considered adequate. The Early Warning System has so far not produced reliable data in accordance with its intended purpose.</p> <p data-bbox="858 831 1444 934">Cost Efficiency: Compared to similar projects implemented in Jordan during the same time-frame the project is of high cost.</p> <p data-bbox="858 978 1444 1158">Sustainability: The Early Warning System has never functioned, not even in the testing phase and accordingly CESAR did not succeed in transferring the ownership of the assets to the Jordanian Authorities.</p>

Project Description/Planned Objectives	Assessment
<p>Palestinian Water Law (1995 – 1999)</p> <p>Total NORAD funding: 3.7 million NOK.</p> <p>Project Objectives: Following request by the PWA, drafted Water Law in cooperation with consultants/lawyers of all three parties to harmonise with legal framework of neighbouring countries and to consider difference in initial legal framework for Gaza and the West Bank.</p>	<p>Relevance: The Palestinian Water Law is a justified project given the fact that the Palestinian Authority was the only party in the region with no established legislation in relation to water. At the time then Jordanian laws applied in the WB and Egyptian laws in GS in addition to the Israeli military orders related to water in the occupied territories. Palestinians, after the signing of the 1995 Interim Agreement on the transfer of Authority in the WB and GS, needed laws and regulations that govern the utilisation and development of water resources within the area under their jurisdictions. As for promoting regional cooperation the development of a Palestinian Water Law is an important step in ensuring that national regulations are compatible with similar laws and regulations in the region and essentially promotes and encourages regional cooperation of water related management issues.</p> <p>Impact and Effectiveness: As a prerequisite preparatory step for drafting the law CESAR carried out a survey of all normative laws and regulations applying in the water sector covering the Ottoman rule period, the British mandate, the Jordanian laws and regulations and the Israeli Military Orders. The second step was CESAR hiring an International Lawyer from Israel for drafting the law. The initial draft was prepared with limited involvement of PWA and therefore was not accepted by the PWA. Accordingly, PWA suggested a new mechanism for the completion of the work whereby a Palestinian Lawyer worked directly with the PWA hired by CESAR. This new mechanism was effective in ensuring the PWA's involvement in the drafting process. The Palestinian Lawyer coordinated with CESAR in the joint work with the PWA. The PWA took ownership to the draft which was finalised in June 1999. CESAR did not exert enough effort to the need for a participatory</p>

	<p>process that involves the stakeholders and the relevant ministries in order to facilitate the adoption of the law. Accordingly the adopted Water Law within the PLC varies considerably from the final draft.</p> <p>Efficiency: The cost of the project compared to the various drafts produced is considered reasonable.</p> <p>Sustainability: Although the process of developing the first draft did not engage the PA or the PWA, a Palestinian lawyer engaged through the PWA to develop a draft for submission has ensured Palestinian capacity to sustain the process.</p>
--	---

Project Description/Planned Objectives	Assessment
<p>Lebanon; Development of decision-making support system- To assist Lebanese experts carrying out pilot project for the Bardawni River in Bekaa Valley (1997–1999)</p> <p>Total MFA funding: 3.13 million NOK.</p> <p>Pilot study completed with a report submitted to the Lebanese Ministry of Agriculture where CESAR advised, assisted and trained Lebanese technical experts. The project activities included data collection, organizing and processing data, apply computer models on historical data to calibrate the simulation model, and use this model to describe and analyse future development alternatives and impacts. Facilitate cooperation across sectors (hydropower, irrigation, industry, recreation, household use, etc) regarding water resources planning and management.</p>	<p>Relevance: To Norway in terms of facilitating dialogue between MFA and Lebanon*. Relevant to Lebanon because pollution control of Litani River was important for key politicians at that time, and not politically linked to the regional water conflict approach when presented as a bilateral TA project. However, it was very relevant for the multi-process because cleaning of the Litani would provide Lebanon with enough indigenous clean water to reduce potential conflicts with Israel over access to and use of South Lebanese water courses shared with Israel.</p> <p>Effectiveness: The Lebanese recipient confirmed that the “pilot pollution control study” was successful, and they wanted a full scale Bekaa Valley project as a basis for significant enhanced domestic water supply in terms of quality and quantity. At same time, a successful full-scale Litani-pollution control project could help to ease tensions with southern neighbours over shared water resources.</p>

*) Part of sentence deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

Change of political leadership in Lebanon at an unfortunate time for launching the full project and the failure to convince the new Lebanese leaders to attend an opening conference in Norway, coincided with MFA's decision to evaluate CESAR's MFA funded activities. These events (much of them beyond CESAR's control) combined to make MFA decide not to fund the proposed full project, irrespective of its obvious relevance to the regional conflict. CESAR trained and supervised Lebanese technicians and produced and submitted a draft final report on pollution control of Bardawni River in mid-2000. The pilot project produced a series of local actions (see left column) among which a local water treatment plant has now been inaugurated, and a pollution control decision-making system installed, although the longer term regional impact never materialised.

Efficiency: MFA paid CESAR NOK 3.13 million over three years. No direct benchmark is available for comparison, and now tendering for the services provided took place in order to allow cost comparison.

Sustainability: Follow up with full scale Litani project depended on external funding (Norway), showing that the new Lebanese regime did not place sufficiently high priority on the Litani cleanup scheme neither as a domestic nor as a regionally strategic project.

Project Description/Planned Objectives	Assessment
<p data-bbox="197 342 762 450">Water Resources Management Euphrates and Tigris rivers (The Euphrates Initiative and Atlas II) (1996 – 2002)</p> <p data-bbox="197 472 683 506">Total MFA funding: 18.8 million NOK.</p> <p data-bbox="197 546 783 1099">MFA-funded “marketing” in Syria of CESAR’s unique conflict resolution concept centred around water issues, established a high level Syrian confidence in the CESAR approach. This convinced MFA to finance a comprehensive technical study with extensive consultative confidence building and data gathering process in the three riparian countries on the water resources development and optimal use for Euphrates and Tigris, so as to prepare the international legal and rights issues related to the use of these water resources by the three user countries, and thus contribute to agreements in principle on negotiations towards a trilateral water agreement.</p> <p data-bbox="197 1144 783 1473">Some 15 technical country reports produced and submitted to each country on hydrological and economic efficiency of Euphrates and Tigris river management, and a final overall study report focusing on economic and environmental impacts of alternative scenarios for hydropower and irrigation. These reports have yet to be formally approved by the riparian recipients.</p>	<p data-bbox="858 304 1444 786">Relevance: Highly relevant to the MFA and the riparian states as a “door opener” needed for establishing water conflict dialogue. Atlas II represented a unique but risky effort at establishing confidence in a scientific approach to facilitate solutions to existing and growing water conflict issues in the three riparian countries, two of which had been virtually inaccessible to western diplomacy. Water-related tensions between these three were a grave international concern, and mediators needed an entry point for getting dialogues started to avoid open conflicts.</p> <p data-bbox="858 826 1444 2089">Effectiveness and impact: Through numerous MFA-financed consultation visits to the riparian countries, CESAR has established confidence at high political levels in Syria and through this managed to get access to high political levels in pre-war Iraq. This “door opener” effect in an otherwise “closed” Syria was a breakthrough benefiting MFA and of value to Norway’s cooperating partners. Upstream Turkey had much less to gain from cooperation and did not favour CESAR’s parallel and increasing bilateral technical assistance to Syria. The many scientific and technical reports from CESAR to each of the riparian parties have shown the importance of addressing water quantity and quality jointly. This has caused tensions between CESAR and Syria’s Irrigation Ministry over strategic approach. While the CESAR models are too simplifying, use too few quality parameters, and adopt several unrealistic self-made assumptions in critical places where official data are unavailable, the models appear internally consistent and useful for the purpose of raising awareness regarding a growing and accelerating sustainability crisis regarding the region’s water resources. Objective not yet achieved because the CESAR process was not internalised/adopted by the riparian parties, and the many technical reports have yet to be formally approved (although they been received and de facto accepted). It appears the ambitions regarding what this trilateral scientific approach could achieve were much</p>

too optimistic, given the complex and fractured domestic and regional political “landscape”, but the process continues.

Efficiency: Considering the fact that efficiency was to be obtained by combining consultations on several separately MFA-financed projects in the region on most of the consultation trips, Atlas II appears to have been a rather costly project in terms of staff- and consultant hours invoiced to MFA for complex and risky engineering work. With no competitive proposal to benchmark against, it is hard to prove excessive invoicing of time on the project, but in view of the tangible output, efficiency appears low.

Sustainability: Once CESAR is unable to follow up and finalize for a multitude of reasons, sustainability is threatened because the process has yet to be formally institutionalised with the riparian parties. Swiss funding to Compass may save it financially, but institutionalising it with the three riparian parties remains to be seen.

Project Description/Planned Objectives	Assessment
<p>Syria – Water Quality Monitoring System (Atlas IIb) (1998–2002)</p> <p>Total MFA funding: 6.0 million NOK.</p> <p>ATLAS IIb was designed to assist Syria in developing coordinated plans for national water management based on a mapping of the water situation (supply and demand) in Syria and conduct monitoring (WQMS) including initial operator training. More specifically, the project should:</p> <p>Establish a basis for improved management of the Euphrates river based on better understanding of the effects of changes in water utilisation on river discharge and water quality; and</p> <p>Serve as an input to the possible cooperation and exchange of information with the other riparian states.</p> <p>A Syrian Water Monitoring program was implemented with 3 monitoring stations placed along Euphrates. Training was provided but infrastructure and logistics problems resulted in monitoring stations failure (the one near the Turkish border has worked much of the time) to transmit and use the intended data. The project is not finalised due to MFA stopped funding of it, and Syria is awaiting finalisation.</p>	<p>Relevance: From the start in 1998, Atlas IIb was perceived as a means to strengthen Norwegian ties to Syria; it adds a new dimension to Norway becoming a more prominent actor in the Middle East Peace process. Gradually, MFA, however, became sceptical about this outcome, due to CESAR's already supportive relationship to Syria, and Turkey's increasing unwillingness to cooperate with CESAR's Atlas II following the launching of Atlas IIb in Syria. For Syria this CESAR initiative was welcomed because of their gradual acknowledgement of a growing water crisis very much linked to i.e. assessing the future availability of good quality Euphrates water, and that they lacked qualified personnel to assess their own water resources situation. Syria sees Atlas II and IIb as one and the same project.</p> <p>Impact and Effectiveness: Based on CESAR's Atlas II and -IIb progress – and technical reports, MFA expressed strong satisfaction with the performance of CESAR as a supportive actor in conflict resolution situations and as facilitator for good dialogue between Syria and Norway. This satisfaction gradually tapered off and MFA began to question real achievements. As for the technical installations and technical assistance (i.e. training of local technicians) components, CESAR failed to deliver as expected by the Syrians. The monitoring stations proved to be too vulnerable relative to the erratic and poorly operated supporting and communications infrastructure provided by Syria and failed to deliver the data and analysis Atlas IIb were to deliver. CESAR could not follow up with spares and repairs required by them. Water quantities on the Turkish border could not be measured due to too high water level in the Syrian dam near the border. Atlas IIb has not been completed and MFA funding is stopped.</p> <p>Efficiency: MFA paid NOK 6.0 million in total. CESAR has had a close technical support and working relationship with Interconsult in charge of all technical matters in the project. No Syrian Government representa-</p>

tive was prepared to judge whether others could have done a better job than CESAR for the amount of money available. For one, CESAR has not yet completed the project, and furthermore, no other institution/consultant had been invited to do bid for the technical/engineering components. However, similar monitoring stations were installed by CESAR in Jordan at substantially higher all-inclusive unit costs in a logistically simpler setting. However, when comparing costs to those of other (Japanese and French) comparable monitoring stations in Jordan, the system in Syria appear to have been costly, but not as excessive as stations in Jordan.

Sustainability: Sustainability of Atlas Iib as a facilitation process has so far rested entirely on Norwegian funding. Sustainability of the bilateral technical monitoring project also depends on MFA funding of qualified technical expertise, since Syria has not attached sufficient priority to finance it from own resources. Without the functioning of the monitoring stations and with no further funding from MFA, the project is clearly unsustainable, unless CESAR succeeds in convincing the Swiss to fund it for completion and continuation by the Swiss COMPASS Foundation that has recently been established by the founders of CESAR.

Project Description/Planned Objectives	Assessment
<p data-bbox="197 342 695 414">Strategic Water Management – Syria (2000–2002)</p> <p data-bbox="197 439 660 470">Total MFA funding 2.2 million NOK.</p> <p data-bbox="197 512 783 1323">Following a crisis meeting in Syria’s multi-departmental High Water Committee (which curiously did not include the Minister of Irrigation), Syria requested Norwegian assistance through CESAR for the handling of their fast growing water shortage which they attributed to increased Turkish use of Euphrates water. The CESAR project proposal was to establish an expert group to prepare a Syrian Water Plan, and based on CESAR’s experience and data collected during Atlas II, Atlas IIb and material collected over several years on Golan Heights, establish a major joint CESAR/MFA initiative to attract and coordinate foreign investments to implement the Syrian water plan which an expert group headed by CESAR shall prepare. The project has produced various brief reports including a report on how Norway with CESAR and MFA jointly as facilitators and coordinators, can lead the development of a strategic water plan for Syria.</p>	<p data-bbox="860 309 1444 600">Relevance: The project (a feasibility study) is clearly relevant for Syrian authorities due to the growing water crisis and the lack of government initiatives to deal with the underlying causes. Syria does not distinguish between this activity and the two Atlas projects. To what extent the project is relevant for Norway as a donor is less clear.*</p> <p data-bbox="860 645 1444 1048">Impact and effectiveness: Only activity so far has been a series of meetings and consultations and preparation of a couple of notes describing the emerging crisis, a couple of related brief strategy notes and project proposals. Syrian awareness and willingness to initiate reforms needed to address the water crisis have not been influenced by this initiative. As MFA decided that it was time for evaluation, MFA funding stopped. Short of any of the intended impacts, effectiveness has been low.</p> <p data-bbox="860 1093 1444 1720">Efficiency: Since it is presented to the Syrian recipient as a purely bilateral project in which a major part is of a conventional water sector program nature, there should have been every reason for the Syrians to demand an open international tender (at least for that component) thus securing for themselves the technically best and financially most attractive offer. With no baseline for comparison it is hard to judge the efficiency, but judging by the limited CESAR documentation and operational policy recommendation over and above what e.g. the World Bank has produced in 1999 as input to a Syrian Water Management Strategy, it would be difficult to conclude that the 2.2 million NOK have been spent efficiently.</p> <p data-bbox="860 1765 1444 1944">Sustainability: It would seem unlikely that MFA would grant the amounts CESAR has stated is necessary for their proposed three year bilateral project without calling for competing tenders, at least for the conventional</p>

*) Two sentences deleted, ref. Act of 19 June 1970 No. 69 relating to public access to documents in the public administration, § 6.1.1.

	<p>bilateral elements. Syria clearly needs such a strategy and sector reform immediately, and CESAR is one of many expert groups that could provide technical assistance in that process. Syria is, however, not a core foreign partner of Norway, and for that reason such bilateral project financing is unlikely unless MFA adopts the view that this project is crucial in a wider regional strategic setting not yet officially revealed to the recipient.</p>
--	---

Annex V – Water as a Political Issue in the Middle East

Overview

Water can serve both as a source of conflict and cooperation. Yet in the arid Middle East, the shortage of freshwater and its uneven distribution have made cooperation on water resources extremely rare. In the Middle East, there are numerous shared river and groundwater basins (e.g. Tigris River, Euphrates River, Nile River, Jordan River, the three aquifers underlying the West Bank, the Coastal aquifer, the Disi aquifer, and the Nubian sandstone aquifer). Every major river in the region crosses an international boundary, and most of the aquifers are shared by at least two states.

The high population growth rates in the region place a tremendous strain on the availability of fresh water for human consumption and economic development. Most of the countries in the Middle East can be described as “water poor”, and indeed, after Kuwait, the Gaza Strip is the next most “water poor” country in the world with 52 m³ available per person each year. The demand for water resources for basic human needs, agricultural purposes, and industrial uses will outpace the supply of renewable water resources within the next few decades. This water deficit could be another source of tension in a region that is already riven by economic despair and entrenched violent conflict.

As water scarcity increases and the quality of the existing resources decreases, states have been forced either to augment their water supply, which has created an incentive for some upstream states to harness their water supplies through building dams to the disadvantage of downstream states – which are heavily dependent upon these same water resources for agricultural purposes – or to over pump their existing resources, which has created negative externalities for the downstream users. This competition over resources has turned water into one of the main strategic resources in the Middle East. Water has become central to many of the political conflicts in the region. Moreover,

many of the political conflicts in the region will not be resolved unless solutions to water sharing conflicts can also be found.

The potential for water conflicts in the Middle East is high. Despite a formal accord between Egypt and Sudan to allocate the Nile (80–20 split, respectively), conflict could transpire in the Nile Basin if the other upstream states were to develop the Nile resources. In particular, Ethiopia, following the cessation of its civil war, has expressed interest in developing the Blue Nile (a tributary) for agricultural development. Approximately 85 percent of the Nile's flow originates in Ethiopia, and any action taken could reduce the supply of available water to the downstream countries, which are very dependent upon the Nile water for agriculture. Discord already characterizes relations between upstream Turkey and downstream Syria and Iraq, which was accentuated after Turkey chose to restrict unilaterally the flow of the Euphrates through the construction of large hydro-installations along the Euphrates in order to increase its hydroelectric potential and expand its available land for agriculture. In the last decade, progress has been made over sharing the Jordan River, but its management is hindered by the fact that the two other upstream riparians – Syria and Lebanon – are not included in the 1994 Treaty between Israel and Jordan. At the same time, disputes have transpired over the years between Syria and Jordan over the construction and operation of a number of Syrian dams on the Yarmuk River.

In short, the unique physical advantage of an upstream water user over a downstream water user limits the ability of states to cooperate over an international river system since the benefits of cooperation are asymmetrical and unevenly distributed. Similarly, cooperation over groundwater systems has also proven difficult. Groundwater systems are classic collective action dilemmas because without cooperation, overexploitation and degradation of water quality will ensue. With the scarcity of water

resources, especially with several drought years in the 1990s, Israel and the Palestinian Authority are facing a water crisis. The water quality of the West Bank aquifers could be threatened in the future if both Israel and the Palestinian Authority increase their pumping, which would result in both upstream and downstream salination of the aquifer. Thus, future conflicts over water might also revolve around quality and not just quantity.

In a region where every drop of water counts and where numerous demands are being placed upon these limited water resources for agriculture, hydroelectricity, industry, and human consumption, conflicts over water can only increase the level of discord among hostile states. Rather, cooperation is necessary to manage these shared water resources sustainably and to foster environmental peacemaking.

Israel and the Palestinians

The sources of water in the West Bank (WB) are those renewable waters of the Mountain aquifer that rises and outcrops in the WB but extends across and below the territories of Israel. The main recharge acceptance area is located in the core of the WB where water originating at altitudes above 400 meters feed the major aquifers in the area. The groundwater recharge in the WB is the direct infiltration of rainwater through fractured, karstic rocks and porous soils. The overall balance in the WB is estimated to be 679 MCM/yr, while in the Gaza Strip (GS) it is estimated at 45 MCM/yr. The Gaza aquifer, which is a classical coastal aquifer, represents the sole water source of the GS covering an area of 360 (km²) with a total recharge of approximately 60 mcm/yr. The Gaza aquifer is threatened by seawater and salt ground water intrusion due to over pumping, and by pollution especially nitrates from the overuse of fertilizers and infiltration of sewage. The Jordan River (JR) has an average annual flow of 1300 mcm. The main rivers in Jordan are the Jordan, the Yarmouk, and the Zarqa. While the water quality of the Jordan and the Yarmouk Rivers is good, the Zarqa River, flowing entirely within Jordan's borders, faces a pollution crisis

that prohibits both access to and the use of its water.

In 1948 and after establishing the Jewish state, the main target of the water plan was to divert as much water outside the JR Basin into a central conduit leading through the coastal plain up to the northern Negev. The National Water Carrier, which was operated in 1964, was the outcome of long planning, its first stages being implemented in 1948. One of the major outcomes of the 1967 occupation was the annexation of much of the headwaters of the JR by Israel, and the subsequent loss to Jordan of a significant amount of its available water supply. Since 1967, the key problem relating to the region's international water resources involves the strict Israeli policy in relation to restricted water allocations in the WB and GS, which deprived the Palestinian people of their basic human rights for adequate water, both in quality and quantity.

After long years of struggle, the Palestinians and Israelis started their negotiations and they began formally in early 1990s. The aim of the Israeli-Palestinian negotiations within the current Middle East peace process was, among other things, to establish a Palestinian interim Self-Governing Authority for the Palestinian people in the WB and the GS, for a transitional period not exceeding five years, leading to a permanent settlement to be based on UN Security Council Resolutions 242 and 338. The Government of the State of Israel and the Palestinian Liberation Organisation (PLO), in September 1993, signed within the framework of the Middle East Peace Process, the "Declaration of Principles" (DOP). The DOP was the first initiative showing the willingness by both parties to put an end to the decades of confrontation and to live in peaceful coexistence. The "Gaza-Jericho" Agreement was signed between the PLO and the State of Israel regarding the autonomous rule of the Palestinian Authority PA, in Jericho and the GS on May 4, 1994. In 1995, the Government of the State of Israel and the PLO, entered into an interim agreement on the WB and the GS. Both Parties showed a desire for putting into effect the DOP.

They also reaffirmed their recognition of mutual legitimate and political rights.

Israel has tapped the Yarkon-Taninim, or Western Mountain, aquifer since 1955. It also relies on two other transboundary aquifers that recharge the WB – the North-eastern and the Eastern Mountain aquifers. The former aquifer discharges into the Jezreel Valley and the latter into the Jordan Valley. The three aquifers combine to provide approximately 30 per cent of Israel's total water supply. Currently the Israelis are dependent on the subterranean water supply of the WB. Approximately 40 percent of the groundwater upon which the state of Israel is dependent and more than one-quarter of its sustainable annual water yield originates in the WB. The size of the problem for Palestinians may be best illustrated by noting that the total available groundwater in Israel and the Palestinian Territory is 1,209 million cubic meters (mcm)/year out of which 1,046 mcm/year is currently being used by Israelis, while the Palestinians are permitted to use only 259 mcm /year. The imbalance of current rights over water use translates into an imbalance in water consumption. The Palestinian domestic per capita consumption of 35-80 l/day is far below the WHO standards, which assign a minimum of 100 l/day. On the other end the Israeli per capita consumption exceeds 300 l/day. Israel also uses about 800 mcm/yr of the total quantities of the Jordan River water, which implies that Israel's water either comes from rivers that originates outside the border, or from disputed lands.

After the murder of Yizhaq Rabin, the former Prime Minister of Israel, the successive Israeli governments did not fully accept the Peace Agreements that were signed with the PLO. Delays and slow progress have characterised the implementation of the existing agreements. Currently the negotiations on a water agreement are semi-frozen due to the high current political tension between the Palestinians and Israelis.

To date there is no agreement between Israel and Palestine on the overarching legal principles that will govern the rights and obligations

of both parties. The negotiations of these rights were postponed for the permanent status negotiations. If one compares the agreements with what has actually been achieved, there is a strong indication of the complexity of the situation and the inequality of the power structures that has favoured the Israelis. Decision-making within the JWC was unilateral and always dependent on the impact of the proposed Palestinian projects to the *status-quo* of the current Israeli utilisation. The "no harm principle" was the dominant factor in the Israeli evaluation and rejection of the Palestinian projects and plans. In the past six years the Palestinians developed only 13 mcm out of 80 mcm (Minutes of Meetings of the JWC between 1996-2000). The repeated Israeli claim that these projects cause harm to current Israeli utilisation is a major obstacle for the successful implementation of the agreement.

The existing peace agreements between Israel and the PLO on the WB and GS water resources do not go beyond some temporary solutions for emerging crises nor do they create a sustainable and permanent solution. Furthermore, these agreements were concluded in an unjust and inequitable manner, basically a situation where the weak has to face the strong. The existing agreements are merely a temporary solution for solving only the immediate domestic needs of the Palestinians, in addition to being a mechanism that coordinates water-related activities within the two areas of jurisdiction for the transitional five years of the interim period, which has expired in September 1998.

It will require real prodigious efforts by the Palestinian negotiators and the international mediators to engage the Israelis in negotiations over water to resume the final status negotiations.

Israel, Jordan, and Syria

The main regional surface water system is the JR and its tributaries, which is shared by five riparians, namely Jordan, Israel, Syria, Lebanon and the WB. The JR begins in three headwaters. The Hasbani River, which originates in

Syria, with parts of its flow in Lebanon, and has an average flow of 140 mcm/yr. The Dan and Banias Rivers both originate in the Golan Heights and flow into the JR above Tabariyya Lake with average annual flows of 250 and 120 mcm respectively. The lower JR is fed from groundwater flow and runoff from WB, Syrian and Jordanian waters, and by the Yarmouk River, which originates in Syria, borders Jordan, Syria and the Golan Heights, and has an average flow of 420 mcm/yr.

One of the first plans related to the JR was the Franghia Plan in 1913, which proposed the use of the JR system for irrigation and electricity. Sponsored by the Ottoman Empire, the plan foundered with the fall of the Empire after WWI. In 1944, the United States recommended the Lowdermilk Plan, which was based on the Tennessee Valley Authority and proposed the irrigation of the Negev Desert with the waters of the Jordan and Litani rivers and the refilling of the Dead Sea through a canal from the Mediterranean Sea. The plan was abandoned following the change of circumstances in the JR Basin after WWII, e.g., the creation of Israel and the influx of large numbers of refugees.

The aforementioned efforts to reallocate the JR waters were never ratified. In 1953, US special envoy to the ME, Ambassador Eric Johnston, proposed an allocation scheme based on the previous proposals. Johnston's Jordan Valley Plan is the product of his negotiating with representatives of Israel, Lebanon, Syria and Jordan for 24 months, which finally, in 1955, led to a unified plan that in his view reconciled the demands of all the riparians. The plan was never adopted or ratified. Failure was partly due to the fact that the Arab states (especially Jordan) did not need a comprehensive program of water development that directly involved Israel to achieve their immediate development goals. Also, there was an apparent refusal especially by the Arabs to accept the criteria that were used for identifying the shares among the parties.

In 1951, Jordan announced its plan to divert part of the Yarmouk River via the East Ghor Canal. In response, Israel began construction of

its National Water Carrier (NWC) in 1953, resulting in military skirmishes between Israel and Syria. In 1964, the NWC opened and began diverting water from the JR valley. This diversion led to the Arab Summit of 1964 where a plan was devised to begin diverting the headwaters of the JR to Syria and Jordan. From 1965 to 1967 Israel attacked these construction projects in Syria, and along with other factors this conflict escalated into the Six Day War in 1967 when Israel completely destroyed the Syrian diversion project and took control of the Golan Heights, the WB, and the GS. This gave Israel control of the JR's headwaters and significant groundwater resources. The most recent directly water-related conflict occurred in 1969 when Israel attacked Jordan's East Ghor Canal due to suspicions that Jordan was diverting excess amounts of water.

Since the start of the Peace Process in the early 1990s, bilateral agreements and common principles have been signed between Israel and Jordan and Israel and the Palestinian Authority, and Syria and Jordan signed an agreement in 1987, but no multilateral plan or agreement has been negotiated, and even the bilateral ones have been put under pressure and frequently violated in times of natural or political crisis.

Though Syria also benefits from water from the River Valley, Israel, Jordan, and the Palestinian Authority are the only entities that have launched and planned joint water projects at the current time. While some joint projects are already underway as a result of the Israeli-Jordanian Peace Treaty of 1994, many projects are still in the preliminary stages. The Israeli-Jordanian Treaty also stipulates that Israel will help Jordan to find new sources of water, to build a system of water storage on the JR and the dams off the river, and to divert more water from the Yarmouk River towards Jordan. Joint efforts also include water desalination. Israel is already providing Jordan with 10 mcm of desalinated water from the Galilee spring waters and recently proposed an even wider desalination plan that would benefit both Jordan and the Palestinian Authority. Finally, cooperation includes a joint Israeli-Jordanian reservoir at

the northern outlet of the Arava, a joint Israeli-Palestinian rehabilitation of the Jericho water supply and irrigation system, several projects related to exploiting Dead Sea water, and joint Israeli-Palestinian desalination projects in the Fazail-Jericho region of the Jordan Valley.

Israel, Lebanon and Syria

Lebanon may appear privileged through its resources in water, estimated at 4.5 billion m³ per year. However, these resources are irregularly distributed over the year, with five months (from January till May) totalling 75 percent of the precipitation, two months (June and July) totalling 16 percent, and the remaining months 9 percent of total precipitation. Added to this unequal distribution, difficulties of controlling water streams in their course toward the sea add to the geological conditions favourable for infiltration. What results are total water resources of 2.2–2.5 billion m³ per year.

Lebanon hardly receives any water from neighbouring countries, whereas the Oronto and Nahr El-Kabir rivers supply Syria with around 510 million m³ per day, and all of the Hashani and of its tributary, the Wazzani, go to Israel amounting to about 150 million m³ per day. In addition, an equivalent volume of underground water, which runs in the direction of the south, has not yet been exploited.

The Hasbani is a tributary of the Jordan River whose basin touches on 5 countries: Lebanon, Syria, Israel, Palestine, and Jordan. In the case of peace in the Middle East, the question of water-sharing of the River Jordan will again be raised. While the Johnston plan foresaw 35 million m³ per day for the development of Lebanese land of the side basin of the Hasbani, the needs of this region will reach more than 59 million m³ per day, of which 45 million are needed to irrigate 4,250 hectares and 14 million to satisfy domestic and industrial requirements. Lebanon only uses 7 million m³ to irrigate 675 hectares and for domestic usage, which is insufficient.

South Lebanon possesses, in theory, important water resources, with the Litani and the

Hasbani rivers, water tables fed from Mont Lebanon and Mont Hermon and numerous sources found in this region. Paradoxically, it is also in the south where there are the most critical cases of villages deprived of water compared to the rest of the country not only for irrigation purposes (90 percent of the cultivation is not irrigated), but also for potable water.

Most of the disposable water resources flow into the sea during fall and to neighbouring countries, and are lost through evaporation. The persistence of the conflict for over 30 years has also stopped the progress on the hydraulic resources projects, which began in the 1960s with the blockage of Qaraon on the Litani River. This conflict and the Lebanese civil war are both partially responsible for the lack of water resource management by competent technical and administrative services.

The situation along the coast between Saida and Tyre is typical of the difficulties faced in water resource management. On the Tyre plain, irrigation water is abundant through the Qassmich – Ras El-Ain irrigation project. However, a delay in the modernisation of irrigation networks has led to high water consumption and the transformation of the 360 km of secondary and tertiary canals, resulting in higher costs. In the north, on the plain of Ghazieh, the destruction by the Israeli bombardment of the siphon of Zahrani has resulted in added drilling of artesian wells, leading today to an over-exploitation of the coastal aquifer resulting in the infiltration of seawater into the water basin.

The government has started works of rehabilitation on the Qassmich – Ras El-Ain project, which will reduce water intake from the coast and the Qaraon dam. It has also conceived an experimental project over 100 hectares situated between Sarafand and Qlaile, to the north of the Litani, which can serve as an example for future projects. Repair of the destroyed siphon in Zahrani, which should have been accomplished before the 1999 irrigation season, will result in a reduction in water pumping.

Inland, the water problem is different as there are villages totally deprived of water, while others are fed through the Litani but face important water pollution problems. The government water authorities have invested substantial resources in the drilling of artesian wells. In villages not served by water network, the Council for the South and local associations has drilled wells without the control of water authorities. The majority of inhabitants do not have access to water resources in optimal quantities. Other problems include the unreliability of supplies and quality.

The principal problems concerning the supply of water in South Lebanon have been clearly outlined. These include:

- Low levels of precipitation throughout long seasons;
- Insufficient utilisation of water for irrigation of agricultural lands;
- Over-exploitation of the coastal plain caused by, drilling of wells and leading to the infiltration of seawater;
- Absence of planned water resource management and identification of underground water deposits;
- Absence of adequate control on the drilling of wells;
- Qualitative weakness in the maintenance of water networks, water reservoirs, canals, and pipes;
- Deficiency, in the measures related to water conservation; and the lack of water recycling.

The same type of problems applies to the quality, of the underground water, springs, and waterways, which have had a tendency to deteriorate. The coastal sheet is affected by the infiltration of chemical products from fertilizers, pesticides, and industrial waste, as well as from untreated wastewater. The Litani is also subject to extensive pollution, especially at Lake

Qaraoun, by untreated water including contaminated water from industries using toxic products like tanneries and paper factories. Springs, even when used as a source for potable water, are not protected from contamination. It is common to see swimmers in such springs.

The principal causes of water pollution are (refer to sources indicated above): insufficient treatment of waste water; pollution from industries and hospitals; inappropriate location of sanitary pits and other installations, inadequate collection and treatment of solid waste; pollution from automobiles (carburettors, oil, lead); seawater intrusion along the coast; deforestation; excessive usage of fertilizers and pesticides; and inappropriate storing of fertilizers, pesticides, and drugs.

In September 2002, Lebanon is planning to divert a portion of the Wazzani river's waters for use by nearby villages. Beirut wants its share of the Wazzani water in line with international laws and was set to start using more 4 million m³ to supply its southern villages from the Wazzani River. The Israeli government has threatened to use military force against Lebanon if it went ahead with using additional water. Lebanon called on the United Nations to draw up a "blue water line" along the borders with Israel, insisting that Beirut "has decided to drink from the Wazzani and Hasbani waters, and 4 million m³ is not enough, while Israel uses 150 million m³ of the water annually."

An American water expert joined by European experts studying the Lebanese and Israeli viewpoints on the use of the river was expected. On a U.S. spokesman's comments urging Lebanon to halt its plans to pump water from the river, Lebanon said: "Did the U.S. administration ever say anything to Israel during its 22 years of occupation of Lebanon regarding its unilateral use of Lebanese water? Or is Israel an international exception that does not have to apply any international and regional laws?"

Finally, under American pressure, compromise could allow Lebanon to tap water for houses in the border villages, but not for irrigation.

Annex VI – Conflict and Cooperation over Water Issues

International Cooperation on water issues

There are many situations that demand interstate cooperation. Because of the physical properties of international drainage basins or shared water resources, activities in the territory of one State may be adversely –or beneficially- affecting activities in the territory of one or more co-basin States. Thus, at the same time that environmental problems are recognized as a source of interstate tension, increasing attention is being devoted to understanding how the environment can be a source of peacemaking.

Two parallel but related venues have characterised the way in which members of the international community can intervene in potential and real interstate conflicts over water resources: the first is situated within the field of environmental security and negotiation theory that focuses on the role of third party actors in bringing about cooperation over shared environmental resources; the second is situated in the field of international law that prescribes a set of norms and principles for how states should act to share their natural resources and, hence, prevent conflict over trans-boundary resources. Under the general principles of international law with respect to the use of water of international watercourses, an international problem arises when one State uses its territory in a manner that produces harm in the territory of another State.

International cooperation might be non-attainable under volatile political situations. Some conditions and prerequisites have to be fulfilled and actions have to be undertaken to prepare the strong grounds for future agreements governed by international law. Accordingly, the option to end up with a binding treaty is only realistic when the Parties collectively agree to commit themselves entirely to the rigors of a formal treaty regime. Under such circumstances it can be shown that the intervention of a third party is more efficient and allow for greater options.

Cooperation, Conflict, and Third Parties

The role of a mediator or a facilitator must be designed to produce wise outcomes efficiently and amicably. This role must ensure the development of an integrative arrangement, which is of equal benefit to all the parties in conflict. In international law the need for mediation in relation to international watercourses arises mainly when watercourse States are in disagreement and cannot themselves solve their disputes using negotiations. In the words of article 33 of the Charter of the United Nations, they must “seek a solution by mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements or other peaceful means of their own choice”. This Article is the *only source of international law* that makes it an obligation on States to follow these processes in case negotiations do not yield solutions.

Mediation embraces the notion of co-basin states seeking the aid of an outside actor, which is of a third state or perhaps of an international body like the United Nations or one of its agencies. In essence under this type of arrangement the parties agree to include the advice of persons charged with the responsibility of looking at the problem at issue objectively. The aid of third parties by way of good offices, mediation and conciliation in the resolution of conflicts not only has been advocated but also has been demonstrated in practice.

Usually state actors assume the role of mediators and arbitrators in negotiations to bring an end to conflict among states. Yet, more and more, international organisations and NGOs are negotiating directly with states over issues related to conflict resolution, preventive diplomacy, and peacekeeping. For example, United Nations organisations have both spearheaded attempts to bring about the cessation of hostilities in Africa, and more so, they have become actively involved in peacekeeping in order to prevent the escalation of conflict in the Balkans. Similarly, NGOs have become involved in con-

flict resolution and peacemaking efforts throughout the world by forcing governments to implement their international commitments. For instance, NGOs have been working for decades to bring about the end of conflict in Northern Ireland between Catholics and Protestants.

Since the end of the Cold War and the emergence of a “new global order”, the role of non-governmental organisations (NGOs) has thus become more pronounced in world politics. NGOs are no longer just involved in providing humanitarian assistance, but they are now the architects of policies related to democracy-building, environmental protection, poverty amelioration, and preventing ethnic conflict.

NGOs unlike state actors and international organisations have largely emphasized *track two diplomacy* – that is, working at the grass-roots level to build linkages among different elements of civil society. Here, traditionally NGOs work at two parallel, but often, interconnected levels. On the one hand, they seek to pressure governmental actors to pursue policies related to human rights, environmental protection, social issues, education, for example, or in issues of conflict resolution to enter into negotiations with groups from the opposition or to recognize ethnic minorities in cases of ethnic tension. On the other hand, they often fill the void of weak governments to carry out policies at the local level that include environmental protection, institution building, or the provision of social services. In many cases, NGOs can bypass governments and politicians in order to target populations at risk.

As a result, in the last decade, Western donors have channelled considerable funds to NGOs in order to implement programs outside of their home governments that strengthen their home governments’ political agenda. For example, USAID has been funding democracy-building programs throughout the Soviet successor

states. Yet, although NGOs receive their funding from government agencies, *they do not speak for their home governments* when targeting elements of civil society. It should be emphasized that the meaning of NGO implies an independent organisation and not an arm of government policy. Yet, there are many NGOs today that do not meet this ideal type definition. Rather, government sponsored NGOs do exist, for example, in Uzbekistan. Thus, this distinction is essential for understanding the role of a specific NGO.

Rarely, however, does an NGO like CESAR *mix the boundaries of track one and track two diplomacy*. Instead, governments usually rely upon special envoys (e.g. former Senator Paul Mitchell or former President Jimmy Carter) to negotiate a cessation to hostilities or peacemaking measures rather than turning to an NGO. NGOs might be included in negotiations, but hardly ever do they drive the negotiations. For example, in the last decade, NGOs have been invited to participate in numerous environmental negotiations pertaining to climate change and sustainable development. Ironically, however, NGOs were not included in the negotiations over the 1997 United Nations Convention on the Non-navigational Uses of International Watercourses.

While international and bilateral aid organisations or their *contracted* consultants have been successful in facilitating cooperation over water basins, NGOs have usually not adopted such a role. As early as 1960, the World Bank helped to mediate between India and Pakistan in order to prevent conflict over the sharing of the tributaries of the Indus River. Through an influx of aid, the World Bank pushed India and Pakistan to sign the Indus Treaty.¹² Similarly, in the mid-1990s, the World Bank was instrumental in inducing the Central Asian states to sign a number of cooperative agreements over how to share and protect the water resources in the Aral Sea Basin. In short, international organisa-

12) The World Bank offered its assistance in order to establish an integrated water resources development and management scheme in the basin. The two countries resumed negotiation under the good offices of the World Bank in 1951 and after nine years of long negotiations, the Indus Water Treaty, which is based on division of the catchment into two basin countries and giving each party the authority to develop and manage water resources within their own territory, was signed at Karachi by Field Marshal Muhammad Ayub Khan, the then President of Pakistan, Jawaharlal Nehru, the then Indian Prime Minister and Mr. W.A.B. Illif of the World Bank on 19th September, 1960.

tions have used water resources and low politics to strengthen relations among states (e.g. in Central Asia) or to prevent the escalation of conflict (e.g. South Asia).

Indeed, NGOs often conceive their role in a different manner than the larger multilateral organisations or bilateral aid agencies. Their interests frequently diverge from the goals of the larger multilateral programs since they usually work with local groups who lack a “voice” in high politics. They seldom choose to focus on high politics, which often involve the inclusion of governmental actors and the need to maintain a level of secrecy surrounding their activities due to the sensitivities of the overarching political disputes. Rather, NGOs opt to work with actors outside of the state in order to demonstrate that members of civil society are capable of cooperating where governments often fail.

Proposed Plan for a Third Party Intervention

Given the prevailing political situation in the Middle East region, there are strong grounds to propose that the potential for attainment of a binding arrangement is impossible in the short-term. Some conditions have to be fulfilled and actions have to be undertaken to prepare the strong grounds for future agreement. Accordingly, the option to end up with a binding treaty is only realistic when the Parties collectively agree to commit themselves entirely to the rigors of a formal treaty regime. Under such circumstances, it can be shown that a technical assistance and cooperation program is more efficient and allows for greater options. Proper coordination of the participating states’ technical efforts can result in a minimum of duplication of effort, in reinforcement or supplementation of each state’s technical services and also in the production of data and plans that are compatible with and appropriate for joint consultation and international cooperation. It is recommended that financing agencies such as the Ministry of Foreign Affairs must look for a clear showing of the ability of the states to fulfil their commitment under the specific cooperation program they intend to finance. Clearly identified targets within a viable institutional framework are

required. The logical role for a third party/ NGO under the said circumstances would be of informal nature with the main objectives to foster the cooperation between the Parties and pave the way for future formal cooperation. There is a broad range of activities to be undertaken with some highlighted below:

Establishment of a Proper Database

At the national level the particular strengths and weaknesses of each party with respect to technical personnel and equipment must be identified. This will enable the design of a program that captures the training and capacity building needs at the national level prior to embarking on the regional and international levels. Technical assistance can be sought from the states themselves if one or more have advanced technical capabilities and facilities. Parallel to that some studies relating to enhancing and strengthening the knowledge on the shared water resources could be undertaken that include; (i) an inventory of shared water resources (ii) inventory of wells and other water related infrastructure of common interest (iii) inventory of existing monitoring stations (iv) assessment of gaps in knowledge for all the Parties (v) design and creation of Joint Monitoring and Assessment systems, (vi) institutional mechanism.

Harmonisation of National Laws Pertaining to Water

The harmonisation of the water laws among the Parties is a crucial step towards regional cooperation. Only those general policies and specific provisions that inhibit and obstruct the desired development need to be harmonized. In the normal situations when the legal systems for the development conservation and utilisation of the waters in questions are in place a comparative study is feasible to identify the lack of needed provisions in one or more states or the existing of conflicting provisions. National water legislation should be harmonized. The removal of legal conflicts and the enactment of needed provisions in the respective state codes

are essential to water use optimisation and to the promotion of regional development generally. Preparatory studies for such harmonisation would be; (i) the conduction of comparative studies of water laws of some countries (CESAR have done that for Israel Syria, Lebanon Jordan and the Palestinian Authority, the UNECE did it for 19 countries in the Far East¹³). (ii) the preparation of a manual for the drafting of a water code based on the principles and considerations outlined in the recommendations of the comparative study.

Implement Pilot Projects in Zones of Concentrations

This kind of geographical focus intends to implement a cooperation program within one selected region in effort to demonstrate the viability of such an approach. The scope of the program must be technical focusing on the management conservation and protection of the water resources in the specific region. A liaison technical committee might be established tailor-made for the specific project.

CESAR's role as Facilitator, Mediator and/or Negotiator

CESAR's unique role has numerous implications for both Norwegian foreign policy in the Middle East and the use of an NGO as an arm of foreign policy. The following should be more closely considered by MFA (and CESAR) in this process:

- **Clear Mandate:** From the outset it should be clearly defined by MFA whether an NGO like CESAR is engaged in track two or track-one diplomacy. It should also be clearly defined whether the NGO is asked to play the role of a mediator/negotiator to resolve a dispute or is assuming the role of a mediator to prevent a potential conflict or is undertaking technical assistance programs in order to foster cooperation and economic develop-

ment as a facilitator. Moreover, it should be clarified whether CESAR is an independent NGO or a government-sponsored NGO. If the latter, then CESAR has some legitimacy to speak on behalf of the Norwegian government. However, it has gradually been proven as problematic when both the host and home governments are unable to define clearly what type of NGO CESAR is.

- **Transparency:** The NGO should make its intentions and activities known to all the parties from the onset. This has been partly the case for CESAR, but when gradually engaging in a new parallel interlinked process, CESAR has put itself in a situation in which its engagements and information generated from the process could not be disclosed to the parties it worked with. Subsequently this have led to a situation were limited information and insight to the activities are kept within CESAR. Even its actual relationship with MFA in terms of project "agreements" and actual funding for its activities has not been disclosed to the parties themselves, the intended beneficiaries of CESAR's services.
- **Public Accountability:** The workings of the NGO's activities should be made available for public scrutiny unless they are defined as state secrets. However, in the case of CESAR, none of the work projects produced appears to contain highly sensitive information that could not be made available to outside actors. This would improve the quality of the NGO's work because it would be judged in contrast to other's seeking to play a similar role. In terms of the processes and activities supported by MFA, there has been no elements of competition from other actors nor any comprehensive appraisals or reviews undertaken (this evaluation is the first external assessment ever made).

13) Economic Commission for Asia and the Far East, Water Legislation in Asia and the Far East, part I, Water Resources Series No. 31 and part 2, Water Resources Series No. 35.

- **Clear Institutional interrelationships:** From the outset of the projects the various institutional interrelationships between the various key players in the process must be defined; these include but are not restricted to MFA, CESAR and the concerned Parties.

In addition, the following are issues MFA and CESAR should consider to improve the process and relevance of projects:

- **Look for Issue-linkages:** If a third party can link issues in water sharing negotiation, it might be able to balance the asymmetry of interests and capabilities among the parties to the negotiations. Third parties should look for ways to increase the opportunities for trade-offs by broadening the number of issues on the table. Linkages could have been made to provide the Israelis with good will benefits while providing the Palestinians with technical assistance that could have raised the level of knowledge of the water resources in the Middle East in the Palestinian Authority to the level of the other parties. There was no real reason to build another water data base in Israel (which no one uses in Israel) while there was a tremendous need for the Palestinian Water Authority to build its own water data base.
- **Link its projects to other projects** so that there is no duplication of activities and

that there is a clear link between Waternet and the Databanks, for example. This is important given that the Palestinians had thought that they were going to get a real data base from the Waternet project.

- **Clarify whether the projects proposed** are to promote economic development and/or functional cooperation in order to provide a basis for future cooperation among the parties, or whether the projects are to provide a negotiating arena in which to reach an agreement in order to resolve a conflict over water resources, or to prevent a future conflict over shared resources. Yet, to be able to undertake the latter, the parties must express their commitment to a mediator. From the interviews, it seemed that the multilateral track (unlike the bilateral track) was not to deal with the sensitive water issues and hence the resolution of conflict. Thus, it is puzzling why CESAR has promoted its activities as contributing directly to the peace process and conflict resolution when most of the projects seem more amenable to technical assistance programs.
- **In short, CESAR needs to show to the parties** that there are both tangible and non-tangible benefits to cooperation, which was not evident in the previous programs.

Annex VII – The Zai Treatment Plant in Jordan

The Deir Alla – Zai project was planned in the late seventies to enhance the water supply of Amman, the capital city of Jordan. The project was planned to pump water from the surface water resources in the Jordan Valley area to Amman with a provision for treatment at Zai station lying between Deir Alla (the intake site in the Jordan Valley at King Abdullah Canal (KAC), at that time East Ghor Canal), and Amman City.

The many concerns raised about that project are summarised in the following points.

- The amount of flow in KAC during the summer months are very small, less than 5 m³/s with a canal length of some 70 km, and high and long exposure to sunlight, high temperature and eutrophication processes.
- Along the canal, some 70000 inhabitants were living at that time. Many of them use the canal as an effluent stream. They bath in the water, discharge wastes, clean dishes and garments using washing detergents, and in some cases, cleaning biocide residues from their plant spraying equipment. Dead animals such as goats, sheep, dogs, caws, chicken, mice etc. were also found in the canal water.
- The carried out analyses showed that the canal water is eutrophied and that the precursors of Trihalomethanes (THM) are quite abundant, which means that high concentration of THMs will develop in the purification (treatment) plant and that no treatment for them has been foreseen.
- Parasitic eggs will also pass through the filters of the purification plant and easily reach households.

The debate and argumentation of the project implementing organisations and university professors let the government of Jordan invite

experts from different countries and organisations to study these issues. The result was that all the invited experts supported the standpoint of the university professors not to implement the project. Nonetheless, the project was constructed and commissioned in 1986 due to political support and commercial interest supported by external concessional funding.

In the spring time of 1987 people supplied with water from the Deir Alla-Zai project claimed that the water had a bad odour and taste. After only a few hours thousands suffered of stomach and intestine troubles and were sent to hospitals for treatment. The water supply was interrupted and both the presidents of Water Authority of Jordan (WAJ) and Jordan Valley Authority (JVA) were asked to resign, which they did.

Upon that the government searched for help, and USAID sent experts to bring about changes in the purification process and in the chemicals used in purification.

For many years the purification plant was producing a somehow acceptable water quality, although still with high concentration of THMs. This concentration tends to increase dramatically on the way from the treatment plant to the consumers, because the water travels and remains in storage in roof tanks, for an average of 3.5 days, before it is consumed.

The composition of KAC water was, until the time when additional water started to come from Israel according to the peace treaty, determined by the chemistry of the Yarmouk River (good water quality), the Mukheiba wells (excellent water quality), and the pollution sources along the Canal, in addition to the eutrophication processes.

The staff at the Zai treatment plant became with time acquainted to the variations in the composition of KAC water and was able to cope with those variations by changes in the treatment

processes. That situation changed with the introduction of water coming from Israel. The variations in the mixed water composition became more complicated and less predictable.

All that made the Early Warning System (EWS) a necessity. Therefore the MoWI allocated field staff to measure and monitor changes in the relevant parameters along KAC, to serve as an early warning system.

Nonetheless, in the summer of 1998 the treatment plant at Zai failed to cope with the changing composition of the canal water and the pumped water to the Amman area proved again to have a bad taste and odour. The bad taste and odour continued for a few weeks and the Minister of Water and Irrigation was insisting that the water fulfils the international standard for drinking water (WHO-Guidelines). But, the protests continued and the Minister of Water and Irrigation had to resign. That did not seem to have satisfied the King and hence, the whole government resigned some 10 days after the resignation of the Minister.

Due to that the Early Warning System became of utmost importance and the water supplied from Deir Alla became, with time, very essential for the municipal water supply of the capital city of Jordan; Amman and other cities and villages.

Failure to run the system has proven to have catastrophic consequences on employees, officials, ministers and even governments in

Jordan. Therefore, staff at MoWI tried to avoid being linked to the water supply system.

Without automated EWS the system may now fail anytime and that would mean another catastrophe to the population supplied with that water and to the government itself. In addition, there is at present no other source to substitute the water supplied from KAC, especially not during the dry period of the year, May to November.

The proper functioning of the water treatment in Zai is very essential for inhabitants supplied with that water, (around 20 percent of all municipal water), for the government, in order to supply the population with good quality drinking water and for all persons working in the project or connected to it in any way.

The history of the two catastrophes of 1987 and 1998 has made all people aware and cautious of the risks of malfunctioning water treatment. Employees of the WAJ try even to avoid working in matters related to Deir Alla Zai project, in order not to run the risks of being associated with treatment failure. The EWS became very essential with time, especially after adding a new unpredictable source of water to KAC which is the water pumped from Israel according to the peace treaty. That water and its reactions with the water in KAC made the treatment at Zai more complicated in terms of changes in the chemistry of the intake water.

EVALUATION REPORTS

1.93	Internal Learning from Evaluations and Reviews	2.99	International Planned Parenthood Federation – Policy and Effectiveness at Country and Regional Levels
2.93	Macroeconomic Impacts of Import Support to Tanzania	3.99	Evaluation of Norwegian Support to Psycho-Social Projects in Bosnia-Herzegovina and the Caucasus
3.93	Garantiordning for Investeringer i og Eksport til Utviklingsland	4.99	Evaluation of the Tanzania-Norway Development Cooperation 1994–1997
4.93	Capacity-Building in Development Cooperation Towards Integration and Recipient Responsibility	5.99	Building African Consulting Capacity
1.94	Evaluation of World Food Programme	6.99	Aid and Conditionality
2.94	Evaluation of the Norwegian Junior Expert Programme with UN Organisations	7.99	Policies and Strategies for Poverty Reduction in Norwegian Development Aid
1.95	Technical Cooperation in Transition	8.99	Aid Coordination and Aid Effectiveness
2.95	Evaluering av FN-sambandet i Norge	9.99	Evaluation of the United Nations Capital Development Fund (UNCDF)
3.95	NGOs as a Channel in Development aid	10.99	Evaluation of AWEPA, The Association of European Parliamentarians for Africa, and AEI, The African European Institute
3A.95	Rapport fra Presentasjonsmøte av «Evalueringen av de Frivillige Organisasjoner»	1.00	Review of Norwegian Health-related Development Cooperation 1988–1997
4.95	Rural Development and Local Government in Tanzania	2.00	Norwegian Support to the Education Sector. Overview of Policies and Trends 1988–1998
5.95	Integration of Environmental Concerns into Norwegian Bilateral Development Assistance: Policies and Performance	3.00	The Project “Training for Peace in Southern Africa”
1.96	NORAD’s Support of the Remote Area Development Programme (RADP) in Botswana	4.00	En kartlegging av erfaringer med norsk bistand gjennom frivillige organisasjoner 1987–1999
2.96	Norwegian Development Aid Experiences. A Review of Evaluation Studies 1986–92	5.00	Evaluation of the NUFU programme
3.96	The Norwegian People’s Aid Mine Clearance Project in Cambodia	6.00	Making Government Smaller and More Efficient. The Botswana Case
4.96	Democratic Global Civil Governance Report of the 1995 Benchmark Survey of NGOs	7.00	Evaluation of the Norwegian Plan of Action for Nuclear Safety Priorities, Organisation, Implementation
5.96	Evaluation of the Yearbook “Human Rights in Developing Countries”	8.00	Evaluation of the Norwegian Mixed Credits Programme
1.97	Evaluation of Norwegian Assistance to Prevent and Control HIV/AIDS	9.00	“Norwegians? Who needs Norwegians?” Explaining the Oslo Back Channel: Norway’s Political Past in the Middle East
2.97	«Kultursjokk og Korrektiv» – Evaluering av UD/NORADs Studiereiser for Lærere	10.00	Taken for Granted? An Evaluation of Norway’s Special Grant for the Environment
3.97	Evaluation of Decentralisation and Development	1.01	Evaluation of the Norwegian Human Rights Fund
4.97	Evaluation of Norwegian Assistance to Peace, Reconciliation and Rehabilitation in Mozambique	2.01	Economic Impacts on the Least Developed Countries of the Elimination of Import Tariffs on their Products
5.97	Aid to Basic Education in Africa – Opportunities and Constraints	3.01	Evaluation of the Public Support to the Norwegian NGOs Working in Nicaragua 1994–1999
6.97	Norwegian Church Aid’s Humanitarian and Peace-Making Work in Mali	3A.01	Evaluación del Apoyo Público a las ONGs Noruegas que Trabajan en Nicaragua 1994–1999
7.97	Aid as a Tool for Promotion of Human Rights and Democracy: What can Norway do?	4.01	The International Monetary Fund and the World Bank Cooperation on Poverty Reduction
8.97	Evaluation of the Nordic Africa Institute, Uppsala	5.01	Evaluation of Development Co-operation between Bangladesh and Norway, 1995–2000
9.97	Evaluation of Norwegian Assistance to Worldview International Foundation	6.01	Can democratisation prevent conflicts? Lessons from sub-Saharan Africa
10.97	Review of Norwegian Assistance to IPS	7.01	Reconciliation Among Young People in the Balkans An Evaluation of the Post Pessimist Network
11.97	Evaluation of Norwegian Humanitarian Assistance to the Sudan	1.02	Evaluation of the Norwegian Resource Bank for Democracy and Human Rights (NORDEM)
12.97	Cooperation for Health Development WHO’s Support to Programmes at Country Level	2.02	Evaluation of the International Humanitarian Assistance of the Norwegian Red Cross
1.98	“Twinning for Development”. Institutional Cooperation between Public Institutions in Norway and the South	3.02	Evaluation of ACOPAM An ILO program for “Cooperative and Organizational Support to Grassroots Initiatives” in Western Africa 1978 – 1999
2.98	Institutional Cooperation between Sokoine and Norwegian Agricultural Universities	3A.02	Évaluation du programme ACOPAM Un programme du BIT sur l’« Appui associatif et coopératif aux Initiatives de Développement à la Base » en Afrique de l’Ouest de 1978 à 1999
3.98	Development through Institutions? Institutional Development Promoted by Norwegian Private Companies and Consulting Firms	4.02	Legal Aid Against the Odds Evaluation of the Civil Rights Project (CRP) of the Norwegian Refugee Council in former Yugoslavia
4.98	Development through Institutions? Institutional Development Promoted by Norwegian Non-Governmental Organisations	1.03	Evaluation of the Norwegian Investment Fund for Developing Countries (Norfund)
5.98	Development through Institutions? Institutional Development in Norwegian Bilateral Assistance. Synthesis Report	2.03	Evaluation of the Norwegian Education Trust Fund for Africa in the World Bank
6.98	Managing Good Fortune – Macroeconomic Management and the Role of Aid in Botswana	3.03	Evaluering av Bistandstorgets Evalueringsnettverk Towards a Strategic Framework for Peacebuilding: Getting Their Act Together. Overview report of the Joint Utstein Study of Peacebuilding
7.98	The World Bank and Poverty in Africa	1.04	Norwegian Peacebuilding Policies: Lessons Learnt and Challenges Ahead
8.98	Evaluation of the Norwegian Program for Indigenous Peoples	2.04	Evaluation of CESAR’s Activities in the Middle East Funded by Norway
9.98	Evaluering av Informasjonsstøtten til RORGene		
10.98	Strategy for Assistance to Children in Norwegian Development Cooperation		
11.98	Norwegian Assistance to Countries in Conflict		
12.98	Evaluation of the Development Cooperation between Norway and Nicaragua		
13.98	UNICEF-komiteen i Norge		
14.98	Relief Work in Complex Emergencies		
1.99	WID/Gender Units and the Experience of Gender Mainstreaming in Multilateral Organisations		

Published by
The Royal Norwegian Ministry of Foreign Affairs
7. juniplassen 1/Victoria Terrasse
P.O. Box 8114 Dep., 0032 Oslo
NORWAY

Available on the Internet:
<http://odin.dep.no/ud/engelsk/publ/rapporter/032091-990133/>

Evaluation reports may be ordered from:
E-mail: eval@norad.no
Tel: +47 22 24 03 41

