JORDAN RIVER REHABILITATION PROJECT

BRINGING THE JORDAN RIVER BACK TO LIFE: STRATEGIES FOR REHABILITATION CONFERENCE

MAY 3-4, 2010
AMMAN, JORDAN

CONFERENCE PROCEEDING
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The Jordan River Rehabilitation Project is supported by the United States Agency for International Development, the Goldman Fund, The Global Nature Fund/ Ursula Merz Foundation and the Green Environment Fund.
1. Regional Jordan River Conference Executive Summary:

The Jordan River Rehabilitation Project's Regional *Bringing the Jordan River Back to Life: Strategies for Rehabilitation Conference* in Amman, Jordan brought together regional and international experts, local and national government representatives and other stakeholders from Jordan, Israel and Palestine and the international community to highlight the results of two new scientific research studies undertaken by FoEME over the past year to identify a regional rehabilitation strategy and opportunities to return fresh water to the Jordan River. These complementary reports proposed concrete recommendations for rehabilitating the Lower Jordan River for regional decision makers to adopt.

The conference began with statements from regional and international "Champions of the Jordan River" who addressed the participants offering words of support and describing concrete actions in support of the regional rehabilitation strategy adopted by FoEME within their institutions.

During the course of the conference the findings and recommendations of FoEME's Environmental Flows study were presented alongside the draft findings of FoEME's economic analysis of policy options to return fresh water resources to the Lower Jordan River. Open discussions were facilitated following each presentation.

FoEME's Environmental Flows Study identified several significant and previously unpublished findings including: the LJR annual discharge is estimated at 20-30 MCM and the river has lost over 50% of its biodiversity primarily due to a total loss of fast flow habitats and floods and the high salinity of the waters. FoEME proposes a regional rehabilitation strategy which requires 400-600 MCM annually, including one minor flood, a salinity level of no more than 750 ppm and primarily fresh water with only the highest quality of effluents allowed up to 25% of the LJR's base flow. This strategy would remove most of the disturbances, restore the river's structure and function, allow biodiversity to recover and achieve a fair to high ecosystem integrity and health. Furthermore, the water needs are high but achievable as indicated in FoEME's economic study.

FoEME's draft economic study of opportunities to return fresh water resources to the LJR identified over a billion cubic meters of water that could be saved and made available from the water economies of Israel, Jordan and even Palestine for other purposes including fairer share and reviving the Lower Jordan River, if current poor water practices came to a stop.

The two reports together reveal that rehabilitating the Jordan River is not only very desirable but economically feasible with the lion's share of water savings being possible at prices lower then the cost of desalination. To download the two new studies click here: [http://www.foeme.org/publications.php?ind=21](http://www.foeme.org/publications.php?ind=21)

The second day of the regional conference highlighted the benefits that rehabilitating the Lower Jordan River can have for the national economies of Israel, Jordan and Palestine as well as for the local communities on either side of the Lower Jordan River, with a focus on tourism opportunities. Speakers, including leading tourism operators from Europe, highlighted the unique possibilities for transboundary tourism, pilgrimage tourism and study tourism that a rehabilitated Jordan River would offer.

The new studies released at the public conference received tremendous media coverage throughout the world, the region, and in Jordan in particular. Approximately 70 articles published in newspapers around the world and in the region have been collected to date. An editorial in the *Jordan Times* gave strong support for our regional rehabilitation strategy and a call to action for the regional governments to address the shared crisis immediately. An *Al Jazerra article* commended FoEME on its regional approach.
to generating political change indicating that "FoEME has proven that persistence, cooperation between all sides and public awareness through the media, can help to generate change". Indeed reaction to the conference, reports and high level media coverage generated strong online discussions. An article in the Jordan Times covering the protest of the Jordanian Professional Associations' Anti-Normalisation Committee against the regional conference was met by strong local opposition in favor of a regional dialogue on this important issue. For a list of the media generated in the last week you can visit here: http://www.foeme.org/projects.php?ind=45.

This report serves to document this unique regional meeting and the expert feedback received by Friends of the Earth Middle East regarding the Jordan River Rehabilitation Project.

Selected comments from the meeting participants are included using Chatham House Rules. Please note that speeches and comments are summarized and not included in full text. Many thanks are due to Friends of the Earth Middle East interns Tiffany Tononi and Tammy Stern for assisting in the preparation of this document.
2. Regional Jordan River Conference Agenda:

Monday, May 3, 2010

13:00 Lunch and Welcome from Munqeth Mehyar, Jordanian Director, FoEME

14:00 Conference Registration

14:15 Welcome from Munqeth Mehyar, Jordanian Director, FoEME

14:20 Keynote Address from Her Royal Highness Princess Sumaya bint El Hassan, President of El Hassan Science City and President of the Royal Scientific Society

14:40 Conference Opening and Welcomes
  - Mr. Mousa Jamaâni, Secretary General of the Jordan Valley Authority
  - Mr. Jay Knott, Head of USAID, Jordan
  - Dr. Mohammad Al Adwan, Member of the Upper House of the Jordanian Parliament

15:00 International Champions of the Jordan River
  - Dr. Véronique De Keyser, Vice Chairwoman of the European Parliament Working Group on the Middle East
  - Ms. Melanie Hutchinson, Associate Programme Officer at the United Nations Environment Programme Regional Office for West Asia

15:20 Kings’ Academy Jordanian Youth Champions of the Jordan River

15:30 Jordan River Champions Awards

15:45 Coffee Break

16:15 Experts Panel 1 and Open Discussion
  Developing a regional rehabilitation strategy: The Environmental Flows Study
  Presented by Elizabeth Ya'ari, Israeli Jordan River Project Coordinator, FoEME
  Expert Authors Panel:
  - Dr. Sarig Gafney, Ruppin Academic Center in Israel
  - Dr. Samer Talozi, Jordan University of Science and Technology
  - Mr. Banan al Sheikh, Al Quds University, Palestine

17:15 Experts Panel 2 and Open Discussion
  An Economic Analysis of Policy Options for Water Conservation in Jordan, Israel and Palestine
  Presented by Baha Afaneh, Jordanian Jordan River Project Coordinator, FoEME
  Expert Authors Panel:
  - Ms. Tatyana Gorskaya, Head of Research and Studies, Integrated Management and Information Consultants
  - Dr. Taleb Harithi, Director, Palestinian Authority Natural Resources Authority
  - Dr. Gadi Rosenthal, Director, Kivun Consulting

18:15 End of First Day

19:30 Depart on Bus for Dinner in Madaba
Tuesday, May 4, 2010

8:00  Breakfast

9:00  Welcome from FoEME Directors

9:10  Presentation of Jordan River Peace Park Initiative and Open Discussion
     Presented by Alan Plattus, Yale University and
     Munqeth Mehyar, Jordanian Director, FoEME

9:40  Presentation of Tourism Concept for Jordan River and Open Discussion
     Presented by Marion Hammerl, Global Nature Fund

10:10 Experts Panel 3 and Open Discussion
     International and Regional Tourism Opportunities
     Moderated by Nader Khateeb, Palestinian Director, FoEME
     ▪  Mr. Manfred Schreiber, MENA Area Manager, Studiosus
     ▪  Ms. Julietta Baums, co-CEO, Nomad Tours

10:40 Jordan River Valley Mayors' Panel and Open Discussion
     Tourism opportunities for Jordan Valley Communities
     Moderated by Gidon Bromberg, Israeli Director, FoEME
     Jordan River Community Mayors' Panelists:
     ▪  Mr. Ali Hussein Al-Delki, Mayor of Muaz Bin Jabal Governorate, Jordan
     ▪  Mr. Suleiman Romanin, Mayor of Al Auja, Palestine
     ▪  Ms. Sol Lavi Ben-Shimol, Tourism Director of Emek HaMayont Regional Council, Israel

11:40 Closing Statements

12:00 Lunch and check out of rooms

13:00 Depart for tour of Bethany Beyond the Jordan Baptism Site on the Jordan River

16:00 Depart for border crossings
3. Session Summaries May 3, 2010:

Monday, May 3, 2010

A. Welcome from Munqeth Mehyar, Jordanian Director, FoEME

We are here today to present FoEME's complementary reports on how much water is needed to rehabilitate the Lower Jordan River and from where these water resources can be allocated. This issue is neither simple nor easy. Our aim is to provide decision makers with the tools they need in order to direct concrete policy and water allocations to the river. Even though Jordan is recognized as the fourth poorest country in the world in terms of water resources, it is even possible for us to find water and return it to the Jordan River. The data we have collected is based upon official reports from each of our governments complemented by new data collected by FoEME.

There are many that have condemned this conference because we work with Israelis, but cooperating in order to strengthen our individual countries and ensure environmental sustainability is the highest form of patriotism. Please join us in reaching our shared vision of the Jordan River.

Due to a last minute health concern, Her Royal Highness Princess Sumaya bint El Hassan was unable to be with us here today. She has asked that I read her prepared speech in her absence.

B. Keynote Address from Her Royal Highness Princess Sumaya bint El Hassan, President of El Hassan Science City and President of the Royal Scientific Society

Highlights from speech delivered by Munqeth Mehyar, Jordanian Director, FoEME at her request

Our region is experiencing many environmental issues - the negative consequences of which are impacting marginalized sectors of our population disproportionately. Much of the conflict in our region is intimately tied to our environmental reality, particularly the scarcity of resources such as fresh water. We see the impact of this problem in the shrinking of the Dead Sea, the critical water shortage on our region, and the ever decreasing water flow of the Jordan River each year.

These problems are threatening the very survival of dozens of communities who have long relied on the Jordan River. Water quality measurements are now being taken at two RSS locations near the Jordan River so that we can best monitor the water quality. They have been in operation since 2004 and test the saline levels hourly, and the information is shared on the national level. However, the water pumps for testing cannot operate when the water levels are so low.

The world population is expected to continue rising in regions already struggling with water scarcity. We must deal with water scarcity now before rising water prices begin to threaten those already marginalized and socially excluded from the decision making process of nation states. We need a preventative regional strategy to effectively move forward. We must bring together “policy makers, the general public, and stakeholders at all levels” to make a regional master plan. “Water and energy are synonyms.”
We must share responsibilities of the global commons; war will not bring people water. 60% of the population in this region is young people under the age of 25. They will provide working skills and human and economic security. We should look at grey water treatment for agricultural water. Clean air and clean water is a human right and we must help empower people to understand and take action in the pursuit of justice.

C. Conference Opening and Welcomes
Mr. Mousa Jamaáni, Secretary General of the Jordan Valley Authority

The Peace Treaty between Jordan and Israel calls for joint monitoring of water along the Jordan River and prevention of disposal of wastewater. But the river is still polluted, especially downstream, with saline springs and sewage are discharged, threatening the ecosystem.

The issues we are facing cannot be mitigated without the combined efforts and immediate action of all related parties. Jordan is the downstream water user and this adds to Jordan’s position as one of the most water stressed countries in the world. Every shareholder needs to be involved in protecting these vital resources. The 2008-2020 Jordanian Water strategy sets targets for raising awareness for water conservation, rainwater collection, waste water treatment, and proper sewage discharge but still requires institutional reform.

I hope that this conference will be a good opportunity to call on experts to exchange ideas so that we can rehabilitate the holy Jordan River.

D. Conference Opening and Welcomes
Mr. Jay Knott, Head of USAID, Jordan

USAID has a strong portfolio of work focused on managing water resources wisely. This year USAID and Jordan are celebrating our 60 year partnership. The Jordan River is of extreme importance to many around the world. Our program here in Jordan is purposefully designed to support the Jordanian government and people in making wise choices related to water usage and water sustainability. Jordan has a unique position to make wise choices and serve as a model for the rest of the world. The four major ideas of our mission are to: optimize water usage, strengthen policies, strengthen environmental conservation, and strengthen environmental protection.

I grew up on Lake Michigan in the United States and when I was growing up there was a major campaign to help clean up the Great Lakes. These lakes are shared with Canada so a cooperative relationship was necessary to rehabilitate the Great Lakes. These long-term cooperative efforts have been very successful with the lakes transformed from sewage dump sites to recreational and community centers. The rehabilitation of the American-Canadian Great Lakes is symbolic of how human behavior can change to save resources.

In addition to supporting FoEME's Jordan River Rehabilitation Project, USAID also supports FoEME's community based Good Water Neighbors program because of our commitment to environmental stewardship, cooperation, and peace. I believe that good lakes, good rivers, good shared resources have the power to divide but also the power to bring people together. For these reasons we support Friends of the Earth Middle East.
E. Conference Openings and Welcomes

Dr. Mohammad Al Adwan, Member of the Upper House of the Jordanian Parliament

I am honored to be invited to speak at such an important conference. As I was born and raised in the Jordan Valley, by the Dead Sea, five minutes away from the Jordan River, I am especially delighted that this conference is taking place on this urgent topic. Growing up I remember the Jordan River as much wider, much cleaner, much stronger river than it is today. The same is true for the Dead Sea, and pollution was unheard of. Sadly all of this has changed. The rapid rate of urbanization, population growth, overuse of water, and agricultural uses of plastics and pesticides have all led to the decline of the Jordan River and the Jordan Valley.

In addition, there is an increase in uncoordinated regional activity. It is alarming that regional population is expected to double by 2040. FoEME has done a lot of work to get the Jordan River recognized as one of 100 most endangered sites in the world. For this reason, this conference is most timely and I thank Friends of the Earth Middle East for their work related to these issues.

This region has only 1% of the world wide fresh water resources, but it has 5% of the world’s population. We also do not know the impact that climate change will have on the region. The regional population is going to double in the next 30 years and our decisions regarding water have a chance to either aggravate or alleviate regional growth.

At the 1991 Madrid Conference, the Jordan River issue was crucial. Failure to cooperate regarding water has caused the failure of many peace treaties from the past. The 1994 Peace Treaty was only signed between Jordan and Israel when the Jordan River issue was recognized and resolved.

The Euro-Mediterranean Assembly recently called on UNESCO to recognize the Jordan Valley as a World Heritage site. And the Jordanian Parliament recently adopted an official resolution calling for the rehabilitation of the Jordan River. The Jordan Valley was once known as the Garden of Eden, the major monotheistic religions call this place holy, and many great civilizations came to this area for the fertility of the land and the flow of the river.

The problems the Jordan River is facing today are manmade; the earth is crying for help. If they are not changed, it will no longer be the Garden of Eden. We need wise policies and concerned governments to take action. Water is life for all of us.

F. International Champions of the Jordan River

Dr. Veronique de Kayser, Vice Chairperson of the European Parliament Working Group on the Middle East

Thank you for inviting me here today. Rivers have long held an important position in history, giving birth to civilizations throughout time. The Jordan River is the most remarkable river; it has symbolic, historic, and political importance for Arabs and Israelis, Christians, Jews, and Muslims. It is also a source of conflict. Therefore, it is a legitimate question to ask whether or not the Jordan River will be a source of peace in the region's future. We hope it will be a source of peace.

Currently, virtually all countries in the Middle East consume more water than the region is able to supply. This has to be solved, not by
war, but from grassroots political means. The Jordan River is a part of the common heritage of humanity that belongs to the world and if we do not take action it will be lost, not just for the people of this region but for all of humanity. No country has the right to monopolize such a resource.

The environmental resources of this region should not be taken hostage by governments fighting for regional dominance. International law addresses international resources. The cooperation happening here today is an example for the region and the whole world. I congratulate Friends of the Earth Middle East for these successful endeavors.

Now we need more international support for the rehabilitation of the Jordan River and the shared resources of this region. The European Parliament plans to organize a workshop with representatives from Israel, Jordan, and Palestine, regarding the serious problems and trust building around the Jordan River area and hopefully to further the initiatives of the European Parliament of these issues. Through our actions, let us be serve as an example of what peace could be for the world. Let’s focus on issues that create dialogue. We look forward to further cooperation with all of you present today.

G. International Champions of the Jordan River
Melanie Hutchinson, Associate Program Officer at the United Nations Environment Program Regional Office for West Asia

UNEP across all regions of the world has as its mission to provide support for inspiring and informing communities to improve their quality of life without compromising the needs of future generations.

The Jordan River flowed freely for thousands of years. It created a lush ecosystem full of biodiversity. Sadly, the mighty Jordan has been reduced to a trickle. Managing the resources of the Jordan River is a major challenge but a variety of organizations such as Friends of the Earth Middle East is stepping up to do just that and at the same time serving as a model for top down and bottom up organizations around the region and globe.

UNEP believes that economic incentives must be created to best protect the ecosystem services of the Jordan River and similar resources. It is particularly meaning full this year, as the international year of biodiversity. Thank you for designating UNEP an international champion of the Jordan River and thank you for inviting me here today.

H. Kings’ Academy Jordanian Youth Champions of the Jordan River

Student representatives from King’s Academy presented their film, Water Reality

We are pleased to present to you some footage that we prepared to make a film about the water reality in the Jordan River Valley that we are working on together with students from Israel and Palestine that we got to know during a youth event organized by Friends of the Earth Middle East.

So far we were denied permission to shot film footage at the location that would have best served our research as the Jordan River is also a closed military zone. Therefore, we went elsewhere to focus on the situation of the Lower Jordan River's second largest source for fresh water – the Yarmouk River.
We saw how shallow the Yarmouk River had become just past its dams. We took samples of water and interviewed local people on the impact of the changes with the water on their lives. We learned that no one is allowed to enter the water because it considered a militarized zone. We also discussed water tourism and how such tourism impacts the environment and the people of the area. Filming was also not allowed in some areas along of the Yarmouk River. We were told that the water from the Yarmouk River is used for irrigation since the Jordan River is polluted with sewage runoff.

Across the border, Friends of the Earth Middle East took us to see the Jordan River and the Sea of Galilee, of Lake Tiberius, up close. The lower Jordan River is extremely shallow; it does not flow and it is polluted by sewage and waste water. The upper Jordan River has cleaner, fresher water and it actually flows.

While our research is not complete and we will continue our studies with the Israeli and Palestinian youth we have been working with.

I. Jordan River Championships Award Ceremony

Jordan River Championship Awards were presented by FoEME's three Directors and Joachim Heido, Ambassador, German Embassy, Jordan to Mr. Mousa Jamaáni, Secretary General of the Jordan Valley Authority, Dr. Mohammad Al Adwan, Member of the Upper House of the Jordanian Parliament, Dr. Véronique De Keyser, Vice Chairwoman of the European Parliament Working Group on the Middle East, Ms. Melanie Hutchinson, Associate Programme Officer at the United Nations Environment Programme Regional Office for West Asia and the students and teachers of Kings Academy.

J. Experts Panel 1 and Open Discussion

Developing a regional rehabilitation strategy: The Environmental Flows Study
Presented by Elizabeth Ya’ari, Israeli Jordan River Project Coordinator, FoEME

Expert Authors Panel:
- Dr. Sarig Gafney, Ruppin Academic Center in Israel
- Dr. Samer Taloozi, Jordan University of Science and Technology
- Mr. Banan al Sheikh, Al Quds University, Palestine

Elizabeth Ya’ari, Israeli Jordan River Project Coordinator, FoEME presented the findings of the Environmental Flows study. The main goal of the Environmental Flows study is to determine how much and what quality of water resources are necessary to rehabilitate the Lower Jordan River and to propose regional rehabilitation goal. The study was undertaken by a tri-lateral expert team including Dr. Sarig Gafney, Ruppin Academic Center in Israel, Dr. Samer Taloozi, Jordan University of Science and Technology and Mr. Banan al Sheikh, Al Quds University, Palestine.

In parallel to the research project, FoEME established National and Regional Advisory Committees which bring together leading experts and government representatives from Israel, Jordan and Palestine. This forum is the only one of its kind that brings together leading national and regional stakeholders to advance a shared solution for the Jordan River.
The study was made of up different stages: collection of historical data and comparing it to contemporary data collected in the field by the FoEME expert team; comparing the contemporary data to reference sites; developing rehabilitation scenarios and discussing the proposed scenarios at the National and Regional Advisory Committee meetings. This process then led to the development of a regional rehabilitation strategy.

The expert team sampled the LJR twice during 2009 including data collection on morphological and hydrological variables including cross sections, velocity, discharge; water quality sampling including: temperature, transparency, Electric Conductivity, salinity, Dissolved Oxygen, % oxygen saturation etc., a macroinvertebrates survey undertaken for the first time in the history of the Lower Jordan River – which will serve as an important reference point for future surveys; and an observational botanical survey. The study was undertaken despite numerous challenges and constraints including access, mines, budget restrictions and the lack of historical references.

In reviewing historical narratives, early studies of the Lower Jordan River as well as the data collected by Yale University in their study of the historic Jordan River, the expert team determined that the historical flow of the Lower Jordan River once measured over 1.3 billion cubic meters with 540 mcm from the Upper Jordan, 480 mcm from the Yarmouk River and an additional 280 mcm from the sides wadis. This rich ecosystem nurtured a wide variety of habitats and fostered rich biodiversity.

Today, an estimated 98% of the flow is diverted by Israel, Jordan and Syria with just 20-30 mcm following the length of the river each year. The river is heavily polluted by saline water, raw sewage and polluted fishpond water discharged. This has led to a severe reduction in biodiversity.

The study compared historical information to the contemporary data on a wide variety of indicators as summarized in the below table:

<table>
<thead>
<tr>
<th></th>
<th>Pre-perturbation</th>
<th>Post-perturbation (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Discharge mcm/year</strong></td>
<td>1,200-1,400 (Ben Ariyeh, 1965; Klein 1985; Salameh, 1996)</td>
<td>20-30 (Current study)</td>
</tr>
<tr>
<td><strong>Width of the wet channel (m)</strong></td>
<td>25-65 (Lynch 1858)</td>
<td>7-25 (Current study)</td>
</tr>
<tr>
<td></td>
<td>50-100 (Hassan and Klein, 2002)</td>
<td>10-30 (Hassan and Klein, 2002)</td>
</tr>
<tr>
<td><strong>Water depth in base flow conditions (m)</strong></td>
<td>0.6-3.7 (Lynch 1858)</td>
<td>0.3-2.5 (Current study)</td>
</tr>
<tr>
<td><strong>Water Velocity in base flow conditions (m/sec)</strong></td>
<td>1-6 (Lynch 1858)</td>
<td>0-0.5 (Current study)</td>
</tr>
<tr>
<td><strong>Flood frequency</strong></td>
<td>A minor flood (50 m3/sec) every year. A major flood (600-800 m3/sec) once in 6-12 years (Klein, 1985. Hassan and Klein, 2002)</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Dominant substrate</strong></td>
<td>Boulders and rocks (Lynch 1858)</td>
<td>Stones – clay (Current study)</td>
</tr>
<tr>
<td><strong>Sinuosity</strong></td>
<td>High (Lynch 1858; Klein, 1985);</td>
<td>Decreasing (Klein, 1985);</td>
</tr>
</tbody>
</table>
### Water salinity

<table>
<thead>
<tr>
<th>Value</th>
<th>Source</th>
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<tbody>
<tr>
<td>3.15</td>
<td>(Glick, 1946)</td>
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<tr>
<td>2.07</td>
<td></td>
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</tbody>
</table>

More saline than UJR or the YR; freshwater inputs from the Sea of Galilee and the YR. 4 ppt (northern section – spring) to 12 ppt (southern section summer) (Current study).

### Organic pollution

- None

BOD: 8 mg/l (northern section; 1.5 (southern section (INPA 2009)).

### Nutrient inputs

- Natural

High NO\textsubscript{3} concentrations (up to 10 mg/l) in southern section (INPA 2009).

### Dominant habitat type

- Rapids, cascades & falls (Lynch, 1858)

Pools and runs (no rapids or falls) (Current study), with long sand bars (Hassan and Klein, 2002).

### Riparian vegetation

- Wide belt - dominated by willows, poplar trees, Tamarix, reed, bulrush (Lynch, 1858; Eig 1927)

Narrow belt - dominated by tamarix and reed (Current study).

### Submerged vegetation

- Eurasian milfoil, Sago pondweed, coontail, and spiny naiad (Eig, 1927).

None (Current study).

### Macroinvertebrate taxa richness

- 26-33 taxa per site (Ortal, 1976)

- 33-45 taxa per site (reference sites; Gafny, 1997. 2006, 2008)

- 9-15 taxa per site (Current study)

### Sensitive species (caddisflies and mayflies)

- Many species

None (Current study)

### Less sensitive species

- Abundant

Rare (Current study)

Based on this information five rehabilitation scenarios were considered including Take No Action, Full Restoration, Partial Restoration, River Rehabilitation, Flow Enhancement. The advantages and disadvantages of these five scenarios were presented and discussed at a series of National and Regional Jordan River Advisory Committee meetings held in Israel, Jordan and Palestine.

The adoption of a regional rehabilitation strategy is more urgent than ever. By the end of 2011 new sewage treatment plants in Israel and Jordan will remove sewage and saline waters currently discharged into LJR for treatment and reuse in agriculture. While this is a great success - if it is not coupled with the allocation of fresh water long stretches of the river will run dry in 2011.

Based on these discussions our expert team has endorsed a regional rehabilitation scenario of 400-600 mcm annually including one minor flood. Salinity levels should be less than 750 ppm which requires the allocation of primarily fresh water with only the highest quality of effluents allowed up to 25% of the LJR's base flow. This strategy would remove most of the disturbances, restore the river's structure and function, allow biodiversity to recover and achieve a fair to high ecosystem integrity and health.
To meet this strategy water resources are required from Israel, Jordan and Syria. To determine quantities of water required FoEME considered two criteria the amount of water diverted by each country and socio-economic considerations. Based on these criteria the following annual water quantities would be needed including 220 mcm from Israel, 100 mcm from Syria and 90 mcm from Jordan. Palestine would not be asked to contribute water to the rehabilitation of the Lower Jordan River rather it needs to receive a fairer share of Jordan River waters as a riparian to the river.

In February 2010 the Israeli Ministry of Environment releases a draft Terms of Reference (ToR) for the rehabilitation the river from the Sea of Galilee to Bezeq stream (the border of the Palestinian West Bank). The ToR was presented at FoEME’s Regional Advisory Committee meeting for comments from the assembled Jordanian, Palestinian and international experts. FoEME encourages the completion of the studies outlined in the ToR and encourages the international community to support Jordan and Palestine in the development of complementary efforts.

Open Discussion

The floor was then opened to questions and comments from the conference participants. Select and summarized comments from the participants are as follows:

- We are bringing life back to the Jordan River but there must also be efforts to bring peace. A lot of the effort of His Majesty is on the national and international relations without political stability. Partnering with Israelis needs to have a goal of reaching a political stability, without which sustainability cannot be reached. The studies would not have worked without the help of the Jordan Valley Authority and its collaboration. There were issues of mines and our safety. As the film of the King’s Academy showed, this is part of a trilateral conference and effort.

- Indeed our study is indebted to the Jordanian Army and the Jordan Valley Authority for allowing us access and accompanying us throughout our study. Without their support and partnership this study could not have taken place.

- The Jordan River has quite a good self purification capability, but a major problem is salinity. Why is it so saline? The saline water that is currently discharged into the Lower Jordan River in fact has always flowed into the Lower Jordan River but via the Sea of Galilee – making it much more diluted. We must get rid of all pollutants, but there is a conflict in doing this because if we simply removed the pollutants and polluted water, we will only have a dry river bed left. We must restore high quality water resources to the Lower Jordan River. You will note in our recommendations that 25% treated effluent is the maximum we support – the rest must be fresh water resources.

- I thank you for your hard work, but I have to play the devil’s advocate. The description you gave is missing something. We now know what happened, and we know we have to now make a plan. What’s missing is that there were no people that woke up one day and decided to destroy the river. The truth is that communities needed to use the water. Pollution problems resulted as the Jordan River provided us with a solution to our need to channel the sewage away from the communities. Many people not in this room do not understand because all they see is that the water is there, we need it, and we will use it, and the same for sending pollutants to the Jordan River. We need to tell them about the damages and convince them because they are the majority. They need to understand what the benefits to rehabilitating the Lower Jordan River will be and what they have to gain. This will make it a complete study.

- Indeed as the first presentation in a series at this conference this presentation focused on how much water the river requires and how a regional rehabilitation strategy can take place. Other aspects of FoEME’s efforts that will be presented throughout this two day conference will address the question from where the water will come from.
(economic study) and tomorrow we will focus on the benefits to communities and tourism opportunities of rehabilitating the Jordan River. There are already tourism companies ready to embrace these new ideas. So really this is a three part study and we aim to have a holistic approach presented throughout this conference.

- We looked at historical data and spent time discussing what our responsibilities would be. In the last twenty years we have had various studies undertaken separately by various institutions in Israel, Jordan and Palestine respectively. This is the first time you will find a study that is both comprehensive and inclusive of Jordanian, Palestinian, and Israeli researchers and communities. It is our hope that this inclusive report has the tools that will help us to convince the unconvinced by developing the holistic plan. We will take additional steps, as this report is only the beginning.

- There are also ecosystems and other services of the ecosystems that were destroyed by the depleting of water flow and that is why we need to continue our studies.

- How can Palestinians contribute to this project if we are not even able to see the river if we do not have a permit from the Israelis? We cannot build without permits. Also, we know why the Syrians are not here but they are of extreme importance to this issue. Have there been any communications, informal or otherwise, as to if they are reaching a point where they will be ready to be a part of this?

- First of all with regards to FoEME’s position vis a vis Palestinian rights of access and a fair share to the Lower Jordan River’s resources, let me be clear. FoEME recognizes Palestine’s water rights to the Lower Jordan River and calls for a more fair distribution of water resources. We do not work with Israeli settlements. As in all of our efforts at FoEME – we undertake things tri-laterally and in so doing recognize Palestine as a riparian to the Lower Jordan River. There is a concern that the Syrians always give a response that the Israeli’s will take a larger part of the water and there is no willingness from their side to struggle through this. I think we can only look to the Jordanian side to reach out in this direction.

- Diverting water was done in the past to make a better life for the communities along its banks. Today, the challenge is how to make returning water a real economic value and to create better jobs for the local communities. Within this organization there is clearly a commitment to Palestinians and an understanding that the Jordan River is the east border of the future Palestinian state. We believe it is a fact that the occupation will end. When? I do not know. I wish it could have ended yesterday but still we believe it will happen and that we will again see the 1967 borders. At the same time this is a regional area and without working together we will not receive sustainable solutions and move forward. The main key that will bring Lebanon and Syria into this important conversation is end of the occupation so we must always be working towards that goal.

- One recommendation highlighted in the full text of this study although not mentioned in the presentation is the recommendation to advance the establishment of a transboundary basin commission for the Lower Jordan River.

- Jordan has laws to protect regional sewage and water resources. These laws do not allow any kind of discharge into the Jordan River if the pollution levels are too high. I haven’t heard anything about the laws of Israel. I think if they enacted such laws we would see a 50% revitalization of the Jordan River.

- Israel does have such laws – called the Inbar laws which set very high standards for the quality of water resources returned to rivers and streams. The implementation of these standards has had a great impact on the building of new sewage treatment plants to remove the sewage from the lower Jordan River. The standards in Jordan and Israel are included in Table 5 of the report.

- The idea is to reduce water being used. The 90 million cubic meters of water Jordan should return is more than the Jordanian water economy could support. How can we ask Jordan to release more water than they are even diverting for usage?

- The shared challenge of the Lower Jordan River requires a shared solution based on two criteria, historic data and peace treaty allocation for taking water out, and socio-economic considerations. If you look at historic data, we are looking at Israel taking about 50% of the water that should be reaching the Jordan River, Syria and Jordan
were each taking about 25% and Palestine historically diverted about 5%. What we are doing is using historic and current data to ask where the water resources should be coming from and the basis for responsibility. As you will see in the afternoon with the presentation of the complementary report – the amounts of water we have proposed to be allocated from each country are very reasonable and feasible.

- We have provided a clear picture of the current quality and quantity of the river. Our resources in Jordan may be limited but our water use efficiency is low. Responsibility for the degradation of the Jordan River and the misuse of water resources is shared and this is well documented long before our research. Even in Jordanian literature it is well documented that Jordan’s water usage is very inefficient, both in the agricultural sphere and in urban environments. Our study is looking in each sector, the current efficiency, and where water can be saved so although 90 cubic meters seems large it is possible and we can make this a reality.

- I would like to comment on the issue of pollution. To see sewage spilling into the Lower Jordan River from the Israeli side is very real and disheartening and we are happy to see a new treatment plant being built. As for the Jordanian and Palestinian side, there is also a lot of pollution. The difference is that on the Israeli side the sewage is coming right out of a pipe while on the other sides it is leaking into the environment and then gradually into the river because there is little infrastructure. 250,000 residents on the Jordanian side only have one sewage plant that is for 100,000 people. Also, Palestine in this plan would not be asked to return water because Palestine currently takes no water from the Jordan River.

- Adding to what was said regarding the botanical survey; we can see the environmental degradation visible in the loss of flora and fauna in the Jordan Valley. I am sure that many plants have died out of our area because of the dying Jordan River. On page 49 of the report you see two pictures, freshwater and polluted water. There are trees that were there at one time and now cannot be found. This is a terrible loss for future generations.

K. Experts Panel 2 and Open Discussion

An Economic Analysis of Policy Options for Water Conservation in Jordan, Israel and Palestine
Presented by Baha Afaneh, Jordanian Jordan River Project Coordinator, FoEME

Expert Authors Panel:
- Ms. Tatyana Gorskaya, Head of Research and Studies, Integrated Management and Information Consultants
- Dr. Taleb Harithi, Director, Palestinian Authority Natural Resources Authority
- Dr. Gadi Rosenthal, Director, Kivun Consulting

Baha Afaneh, Jordanian Jordan River Project Coordinator, presented the findings of the economic analysis of policy options for water conservation in Jordan, Israel and Palestine. The study is being presented here in a draft form and comments and questions are encouraged from the conference participants to help us in bringing the study to final form. As discussion time is limited, comments are encouraged following the conference in writing to any of our three project coordinators in Jordan, Palestine or Israel.

The study was undertaken by a tri-lateral expert team including Tatyana Gorskaya, Environmental Management Expert, Jordan, Dr. Taleb Harithi, Director of Natural resources Authority, Palestine, and Dr. Gadi Rosenthal, CEO of Kivun Consulting for Strategy, Economics and Business Development, Israel.
The primary objective of the study is to identify possible opportunities to save/produce water from within the national water economies of Palestine, Jordan and Israel. These opportunities to save and produce water resources provide guidance to decision makers, media and general public that there are realistic economic and environmental options available to allow water to flow back into the Lower Jordan River, if there is political will to do so.

The study adopted a unified methodology, applying the "wedges" concept as the basis for its cost-effectiveness economic analysis. The amount of water identified for transfer to the Jordan River from each sector of the water economy, constitutes a “wedge”. This methodology of identifying conservation wedges was been developed by researchers at Princeton University in the context of greenhouse gas reduction.

Each of the three experts undertook an overview of the water resources available in their countries, reviewed current water demand and supply issues, prepared an overview of relevant policy and legislation and analysed a wide range of possible interventions (“wedges”) from the different sectors of the national economies.

The evaluation of potential “wedges” primarily addresses water demand management, and non seawater desalination water supply augmentation. The analyzed “wedges” vary greatly in terms of cost per cubic meter of water conserved, and in terms of their political feasibility. Feasibility has been defined as a function of economic costs, likely opposition by negatively affected stakeholders, and of the technological ease of implementation.

The proposed wedges took into consideration several factors:
- behavioral changes – including raising public awareness on the economics of water consumption;
- technological improvements and innovations that significantly reduce water consumption;
- changes in cropping patterns in agriculture;
- reallocation of water to the sectors with the higher economic returns;
- improvements in conservation of the available water resources;
- political and socio-economic factors

Because certain options impacted and overlapped others the figures were reduced by 15% to compensate for any impacts.

The policy opportunities from each country are presented in the below tables:
### Summary of Policy Wedges Examined in Israel

<table>
<thead>
<tr>
<th>Policy Wedge</th>
<th>Water Conserved by 2020 (mcm/year)</th>
<th>Cost Effectiveness (US$/m³)</th>
<th>Feasibility 1-Low 5-High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td><strong>Supply</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced water losses from leakages</td>
<td>29</td>
<td>51</td>
<td>73</td>
</tr>
<tr>
<td>Reduced water losses from reservoirs</td>
<td>61</td>
<td>73</td>
<td>81</td>
</tr>
<tr>
<td>Rooftop rainwater collection</td>
<td>4</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td><strong>Demand</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness raising</td>
<td>76</td>
<td>101</td>
<td>126</td>
</tr>
<tr>
<td>Change in plants used in gardens</td>
<td>23</td>
<td>46</td>
<td>68</td>
</tr>
<tr>
<td>Price increases in agricultural sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grey water use (irrigation)</td>
<td>36</td>
<td>76</td>
<td>118</td>
</tr>
<tr>
<td>Grey water use (toilets)</td>
<td>13</td>
<td>27</td>
<td>55</td>
</tr>
<tr>
<td>Removal of trade restrictions</td>
<td>30</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td><strong>Unadjusted</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total - net cost less than desalination</td>
<td>289</td>
<td>454</td>
<td>608</td>
</tr>
<tr>
<td>Total - net cost more than desalination</td>
<td>53</td>
<td>110</td>
<td>186</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>342</td>
<td>564</td>
<td>794</td>
</tr>
<tr>
<td><strong>Adjusted</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total - net cost less than desalination</td>
<td>246</td>
<td>386</td>
<td>517</td>
</tr>
<tr>
<td>Total - net cost more than desalination</td>
<td>45</td>
<td>94</td>
<td>158</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>291</td>
<td>480</td>
<td>675</td>
</tr>
</tbody>
</table>
## Summary of “Wedges” in Jordan

<table>
<thead>
<tr>
<th>Policy Wedge</th>
<th>Water Conserved by 2020 (mcm)</th>
<th>Cost effectiveness (cent/ m³)</th>
<th>Long-term Feasibility Index (1 = low, 5 = high)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td><strong>Supply</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wastewater reclamation in agriculture</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Municipal rain catchment</td>
<td>7</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Reduction of water conveyance loss</td>
<td>17</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>Farmland renting by JVA</td>
<td>8</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Accountability of supplied water</td>
<td>10</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td><strong>Demand</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public awareness</td>
<td>12</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td>Gardening reform</td>
<td>25</td>
<td>31</td>
<td>37</td>
</tr>
<tr>
<td>Grey water for domestic use/double toilet</td>
<td>18</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>flushing system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved efficiency of irrigation</td>
<td>30</td>
<td>38</td>
<td>46</td>
</tr>
<tr>
<td>Reform of agricultural water tariffs</td>
<td>40</td>
<td>47</td>
<td>54</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>217</td>
<td>288</td>
<td>359</td>
</tr>
</tbody>
</table>
Summary of Policy Wedges Examined by Palestine

<table>
<thead>
<tr>
<th></th>
<th>Annual mcm (average)</th>
<th>Cost effectiveness (cent/ m³)</th>
<th>Long-term Feasibility Index(1 = low, 5 = high)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUPPLY SIDE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wastewater reclamation for agriculture</td>
<td>39</td>
<td>55</td>
<td>4-5</td>
</tr>
<tr>
<td>Municipal rainwater catchments</td>
<td>9</td>
<td>52</td>
<td>4</td>
</tr>
<tr>
<td>Reduction of water conveyance loss</td>
<td>14.5</td>
<td>60</td>
<td>3--4</td>
</tr>
<tr>
<td><strong>DEMAND SIDE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public awareness</td>
<td>14</td>
<td>45-50</td>
<td>4-5</td>
</tr>
<tr>
<td>Reduction of water for toilet flushing</td>
<td>21</td>
<td>55-60</td>
<td>4-5</td>
</tr>
<tr>
<td>Improved efficiency of irrigation</td>
<td>11</td>
<td>60</td>
<td>4-5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>108.5</td>
</tr>
</tbody>
</table>

With regards to Palestine, it is estimated that around 108 MCM of water can be saved from water conservation, although the possibility exists of the overlap between certain options. In order to compensate for the possible overlap of the options the figures estimates were adjusted to 15% lower than the figures given. The adjusted total water savings is estimated at 92 MCM. The Israeli military orders, rules and regulations regarding water and water transfer, extraction, sale and distribution, control of water use, granting permits and all matters regarding water resources are serious impediments. These figures mentioned are in addition to Palestine receiving a fair share of shared water resources.

All in all the study has identified over a billion cubic meters of water that could be saved and made available from the water economies of Israel, Jordan and even Palestine for other purposes including fairer share and reviving the Lower Jordan River, if current poor water practices came to a stop.

Together this report and the environmental flows report reveal that rehabilitating the Jordan River is not only very desirable but economically feasible with the lion's share of water savings being possible at prices lower then the cost of desalination.

*The expert consultants were invited to add any additional comments:*

Dr. Taleb Harithi, Director, Palestinian Authority Natural Resources Authority added that the issue of Palestinian water rights to the Lower Jordan River is of paramount importance to the Palestinian people. While water rights and access to the Lower Jordan are restricted to the Palestinian people rehabilitation of the Lower Jordan River will remain of secondary importance. Per capita, Palestinians consume less water than almost every other place on earth.
Dr. Gadi Rosenthal, Director, Kivun Consulting added that most of the volume of the total wedge of Israel comes from the municipal and industrial sector. We estimate that 50% of the water in the total wedges has a high chance to be feasible for recovery. Israel is working with a water network. Water in Israel is networked, and there is competition for environmental uses like rehabilitation of rivers in general. This work revealed that Israel has a potential to adopt a water planning that is more sustainable, balanced, safer, and can enable to rehabilitation of the Jordan River while being more economically efficient.

Open Discussion

The floor was then opened to questions and comments from the conference participants. Select and summarized comments from the participants are as follows:

- I am currently engaged in one of the largest projects research climate change impact in the Jordan River Basin. We are studying many different subjects that relate to this study and prove that allocating more water for nature is economically beneficial. I hope that you review this effort in relationship to your final paper as there are some similarities. There needs to be a major awareness raising effort regarding the Jordan River because it is one of the few places in the Middle East that outsiders identify with. In the meantime, this region is perceived of as unsuccessful. We need to communicate and then of course make clear recommendations as to what can be done both in the situation of when there is peace and understanding or in a situation where there is not peace since we will still need to manage our environmental resources.

- A lot of water savings were identified through public awareness but recent studies show that public awareness campaigns are not as successful in the long term. Have you thought of adjusting your wedges because of this, such as to institutional changes?

- Forced changes often become habitual changes so we focused on public awareness, because showing the economic benefits of saving water for example, changes behavior.

- Perhaps we are using the term “public awareness” too liberally, its not the best name. When we say this, we mean a whole spectrum of strategies that also include and influence institutional changes. Of course these efforts must be maintained but I think it is possible. In Israel public awareness activities have already helped reduce domestic consumption by 15% not including increase in the price of water.

- People become water conservers when they see personal benefits.

- I live alongside the Jordan River and I see it everyday. No water is flowing from the after the Sea of Galilee today, only from the Yarmouk. This is a problem. I wish that there will also be some means found to start cooperating with Syria. Just as water can be the cause of war it can also be the basis for dialogue. Finally, one thing we have not heard here today, but is very important, is the implementation of technologies for irrigation. This has happened a bit in Israel and I hope it can happen more in Israel and in other areas of the region.

- The affluent do not experience the water crisis and are not affected by the raising of water prices in the region. The problems of scarcity are most strongly felt by the middle class. I think awareness campaigns will work because they are the class that is interested in saving money and protecting the environment, and at the same time has the privilege to make such changes a reality in their lives. We are encouraging to live more efficiently and we are targeting economic issues.

- Firstly I wish to congratulate FoEME. There are many examples of such efforts such as Portugal and Spain who share a river and created change through cooperation and management plans. I recommend there be a chapter added regarding the cost of doing
nothing. What is this cost? In my opinion this will be the data that prompts change and cooperation because the costs of economic impact, loss of biodiversity, and climate change are very high.

- Good point, the cost of doing nothing is not a free alternative. It is estimated at 3 billion dollars per year actually which is a tremendous cost.
- Despite water efficiency improvements, there will be population growth which will increase water demand in the future of this region. Have you taken into account that many gains from saving water can only be used once? Have you looked at that overlap and do you have any views on this issue? Is the water used to restore the Jordan River rather than banking it towards future usable water? Have you looked at the compatibility to this to other water management plans?
- The wedges we have allocated take into consideration the existing conditions. For example, the costs we have calculated do not take into account possible price changes in the future or long term. We used the current situation to create our study and recommendations.
- Before we started to look at recommendations we had to start with the situation at hand. There are viable economic options within the existing demand and supply situation. For example, in Jordan, 25% of our water supply is labeled “unaccountable” which means that no one knows where it goes. So in this example, capturing this unaccounted for water can help to revive the water needs and demands of the people living in Jordan.
- One of the reasons we reduced by 15% the adjusted net savings is because there is overlap. If we reduce one there will be less water to save elsewhere, etc. It is also legitimate that awareness campaigns often respond to crisis and a few years down the road people forget about them, but we believe that done properly we can create changes that have lasting impact on the actions of people living in the region.
- Palestinians don’t benefit from the Jordan River as the ongoing Israeli occupation prevents Palestinian access the Jordan River. We are unable to use the water for agriculture. You discuss tourism over agriculture. Agriculture is an issue because people say it generates jobs, etc but the reality is that in Jordan or Israel, most of the workers are migrant laborers and so the supposed benefits are not actually going to the socioeconomic reality of this region. Meanwhile the water is being used. If we put more into tourism and ecology we will be more prosperous. I look to tourism as the future “export” of this region and an important pillar of the Palestinian economy. Our experience a few years ago was that politicians never even mentioned fresh water or rehabilitating the Jordan River. So we have seen some positive changes in the fact that these issues are seen being discussed out loud. We have to work together to speed this process up. For awhile try to put yourself in the position of your neighbor and imagine his needs as if they were your own. This will greatly help us to reach our goal.

**End of First Day**

**Social Dinner for all Conference Participants in Madaba, Jordan**
4. Session Summaries May 4, 2010:

A. Presentation of the Jordan River Peace Park Initiative and Open Discussion

Presented by Alan Plattus, Yale University and Munqeth Mehyar, Jordanian Director, FoEME

Alan Plattus, Yale University

This morning I read in the paper that we have all been accused of fostering understanding. For that I congratulate everyone here.

I am a Professor of Architecture at Yale University in the United States. I also run the Yale Urban Design Workshop, a community design center that works with local communities on design issues. We believe that design is about community building and regional and local identity just as much as it is about the design itself. It is about helping people understand that local communities are the greatest experts of their reality and that they have the capacity and the right to design their own environment. We are very much committed to the process of collaboration and cooperation.

Two years ago, as a guest of the Kingdom of Jordan and Friends of the Earth Middle East, I took part in a unique regional effort together with Israelis, Palestinians and Jordanians to think about the development of the unique area of the proposed Jordan River Peace Park. We held a five day open house workshop to create initial designs of the area and invited local community members to participate.

We surveyed the land; we met with the community and the area Mayors. The greatest teacher we had was the site itself - it is an extremely impressive and important site. Throughout the area's history it has been a central example of the region's shared cultural heritage, a cross roads of civilization, a place of communication, a place of meeting and exchanges – exemplified by the three bridges which cross over the Lower Jordan River at the site. This is an important conservation project in all aspects; environmentally, ecologically, historically, archeologically, etc. The remains present a rich tapestry of that history. The site is also located in the Great Rift Valley between Africa and Asia through which half a billion birds migrate twice annually. Indeed the site is rich in cultural and historical narratives – no one story can encompass its unique heritage.

The goals of developing the Jordan River Peace Park include:

- Contribute to and set an example for the rehabilitation of the Jordan River.
- Promote sustainable tourism as an economic development engine for the region with direct benefits for the local communities.
- Protect and present the history of the site and its artifacts in the spirit of understanding and cooperation. There can be no one narrative so all of the stories need to be recognized and told.

Water is the essence of our task. This site will encompass wetland gardens, river gardens, arid gardens, and arid sustainable agriculture. We want to share this site with the world but we also want to control this site and protect it from misuse and overuse as we have seen from overuse problems in the US National Parks. We want to make it as much as possible a pedestrian experience. We also want to explain to people the extraordinary ecological and human history of this site.
Heritage tourism and ecotourism are the two fastest growing parts of the tourist industry and this site is ideally suited to take advantage of these areas of growth. Tourism can help diversify as well as develop the economy of the local communities.

The migratory birds are still there despite the critical state the Lower Jordan River. Before they vanish completely we have to create mechanisms to keep them and bring them back. We need to support bird watching activities on this site.

These are not fundamentally political activities; it is about appreciating the environment. There are ruins on the site from older buildings lasting from the era and efforts of King Abdullah I. These buildings can be reused or incorporated into the site. There is no need to demolish or remove them. There are also three famous bridges from history reminding us that this was a place of movement from many nations and civilization.

We think there is enormous potential to get this project moving if the political will exists.

In considering the phasing of the project's development and implementation we believe that the first step is to develop the Jordanian side of the park where some of the larger remains are located.

One of the first projects we are beginning with is the rehabilitation of the beautiful little train station that is on the site. It is not in terrible condition and we want to see this building brought back to life as an example of the rich and diverse heritage at the site.

I want to end by thanking all of you and the wonderful hospitality of the Kingdom of Jordan and the Jordanian army who facilitated our design workshop. I also want to thank Friends of the Earth Middle East for the opportunity that they have given my students in particular to collaborate and cooperate with this project and we hope to only move forward in the future.

**Munqeth Mehyar, Jordanian Director, FoEME**

Today in Jordan Petra stands out as a major tourism site in central Jordan, likewise Aqaba is a great draw in the south. The Jordan Valley is rich in unique cultural and natural heritage sites but public services are strongly lacking. Gesher and Naharyim are two of particular interest and if developed can serve as an anchor to many tourism sites both in the north of Jordan and along the Jordan River Valley.

These areas are currently under Jordanian military administration as border areas and remain very sensitive; nonetheless we are looking for their potential. Security issues are important, as are economic opportunities for the local communities surrounding the proposed area. According to our pre-feasibility study of the proposed Jordan River Peace park –we expect that this project will provide no less than 200 employment opportunities overall including at least 50 security related jobs. King Abdullah has visited the site on several occasions and every time he visits the site he comments that he wants the local people involved as much as possible so that in empowers area residents and makes them feel that the area is just as important as Aqaba, Petra and the Dead Sea.

As Alan mentioned, we have many phases set out and in the beginning we want the Jordanian side of the park to receive designation as a Jordanian national park. I don’t want to speak for too long so we would be happy to take questions at this point.

**Open Discussion**

*The floor was then opened to questions and comments from the conference participants. Select and summarized comments from the participants are as follows:*
- It seems as if most of the territory would be in the Jordanian side even though you mentioned two entrances from Israel and two from Jordan. You mention designating it as a national park in Jordan but do you have plans for some kind of international/transnational status?
- Historically this was all one area. Of course now the river is the border. When we say that we want to develop the site as a national park in Jordan, it is because we want to develop it to the level that has already been reached on the Israeli side.
- Although our first phase is specific to the different needs of Jordan and Israel. The idea is to build a transboundary peace park building on the unique status of the area designated in the Israel-Jordanian Peace Treaty. The Treaty states that Jordanians and Israelis are allowed to meet on the Peace Island, a central component of the proposed Jordan River Peace Park, without the need for a visa. Each country will always maintain its part of the site in terms of sovereignty, but we eventually want a joint cooperation and joint management team for developing, implementing, managing, and sharing profit. Studiosus, a German tourism company with us here today, already bringing German tourism groups to the site just to see the vision and the possibility of the site. There isn’t even a park yet and people want to see this place and feel the spirit of our efforts. In regards to political will, we are seeing the Israeli government put money into something that is really a vision of the future.
- This is an exciting project and I hope it will not just be a set of ideas that will never take hold.
- We have been in discussions we every possible ministry and government body that is important to this project. Also the Jordanian government is particularly sensitive to this site due to the past horrible event where a Jordanian soldier shot and killed 7 Israeli students. This was an extremely painful incident which led to new security protocols for the area. Nonetheless, the Jordanian government is committed to moving forward and working to make cooperation central to this project.
- This is a great project but it is also a valid point that tourism is largely run by the private sector. Investors will be centrally concerned about the security issues and I think we need to think of this in the first stages.

B. Presentation of Tourism Concept for Jordan River and Open Discussion

Marion Hammerl, Global Nature Fund

For many years I have been working closely with Friends of the Earth Middle East as part of the Living Lakes Coalition – primarily focused on the Dead Sea. Because the Lower Jordan River is the primary water supply to the Dead Sea and its rehabilitation is so central to the rehabilitation of the Dead Sea we are also very invested in the issues impacting the Jordan River.

There is a phrase from India regarding tourism. "Tourism is like fire; you can cook your soup with it or you can burn your house down." I myself am involved in many tourism initiatives because lakes are either a large part of tourism development in different area of the world, or they are a potential tourism destination. Today the “UN World Tourism Organization estimates that global spending on ecotourism is increasing by 20% a year, about six times the industry-wide rate of growth (TEEB Report 2009).” Ecotourism can contribute to the economic vitality of the region. Tourism is a tough industry, but as mentioned by Alan, ecotourism is an increasing market showing no sign of decline.

What are the components of tourism destination development? Vision, long term concrete objective, unique selling proposition, branding, analysis of potential demand, analysis of current competition, ability and willingness to cooperate, management structures, cross cutting programs, quality assurance/quality management.
This is a very competitive market and it takes commitment. Global Nature Fund has many connections to major international tourism companies and they are actually very keen to include sites of ecological importance. We must undertake a SWOT analysis as a part of the development process as well. Tourism is not a solution to everything and we need to be very careful at how we develop this market; it needs to be sustainable.

The good thing is that tourism can have a positive impact on other industries, such as agriculture. There are positive examples of peace parks around the world including the Balkans Peace Park Montenegro, Kosovo, Albania.

We have an opportunity to brand this place with something that can come to people’s mind when they think of the area. For example, *The Jordan River: Connecting Lakes – Connecting Nations*. More than 60 ecolabels certify ecotourism worldwide. There has also been the development of a Global Sustainable Tourism Criteria (GSTC) which perhaps we should take advantage of in the development of this project.

Benchmarking for monitoring and standard setting is very important as well. One thing we created in Germany is [www.ecocamping.com](http://www.ecocamping.com) which has been very successful ecologically and economically.

These are some practices that have worked well in our region that I can see has highly transferable to development of tourism in the Lower Jordan River Valley.

**Open Discussion**

*The floor was then opened to questions and comments from the conference participants. Select and summarized comments from the participants are as follows:*

- Channels for water, dams, reservoirs are important. Israel must remove pollutants from the Jordan River so we can rehabilitate the river for tourism.
- What you talked about is very important. Dams are viewed from the environmental perspective as important but politicians see it differently. We need to remind everyone to see the Jordan River as needing water, not just supplying it. As we see, Syria and Lebanon aren’t here and we cannot succeed without all the players. The momentum is there and we hope to take the initiative to reach the potential of this project.
- What do you think that we, as youth, can do to promote ecotourism in this area?
- Yes youth are a huge part of this puzzle. In fact with regards to development of ecotourism opportunities, there are two main target groups; youth and elderly people. Clearly young people are interested and passionate about ecotourism. There is the need to create jobs, qualified guides, knowledge of nature and environmental values within ecotourism and there are great job opportunities for young people in this sector.
- Unfortunately we are very short on time and have to end this session but we very much look forward to furthering the partnership with Global Nature Fund.
- I just wanted to say that we are borrowing our region’s unique natural heritage from our grandchildren yet we have harmed many of the great treasures of our world. I hope that we can mend what we have ruined through this effort.

**N. Experts Panel 3 and Open Discussion**

*International and Regional Tourism Opportunities*

Moderated by Nader Khateeb, Palestinian Director, FoEEME

- Mr. Manfred Schreiber, MENA Area Manager, Studiosus
- Ms. Julietta Baums, co-CEO, Nomad Tours

Mr. Manfred Schreiber, MENA Area Manager, Studiosus
I would like to add a few practical points we have not yet discussed in these sessions. Jordan and Israel both have clear cornerstones for tourism. In Israel the primary sites include Jerusalem, the Sea of Galilee and the Dead Sea. In Jordan you have Petra, Aqaba, and the Dead Sea. Back to Israel, we see that two of the three cornerstones of tourism are in serious ecological decline. Like the Dead Sea, Lake Tiberius is in rapid decline. Losing another 20 meters at the Kinneret will be huge trouble. This reality will greatly impact the area's local communities even beyond ecology. We are actually talking about the future of the tourism industry in Israel and Jordan. So we are talking about the environmental and the economical future of our entire region, Israel and Jordan.

The Jordan River is a place of strong myth for millions of people. In the tourism industry we love myth. This is the intangible thing that brings people to various sites as tourists. The bad thing is that while the myth of the Jordan River still exists for millions of people around the world the Jordan River is no longer here. The site is in such a degraded state that it can no longer be used for tourism.

I can imagine that if we manage to rehabilitate the Jordan River as an actual river it will have invaluable potential. I can imagine rafting, canoeing, hiking, guest houses, cross country tourism. This may seem like a crazy vision but it is possible – similar to what was developed in Europe after World War II.

Nader Khateeb, Palestinian Director, FoEME adds:

One thing that I want to put on the table for discussion at this point is the importance of Jerusalem as a central cultural, economic and tourism pillar for Palestine. No Arab, Palestinian or Muslim will ever forget that Jerusalem is a part of Palestine. There can be no sustainability in this type of tourism if Palestinians are not included. It will only cause greater problems if Palestinians see Israeli and Jordanian tourism becoming easier and easier, more and more successful, when they have such limited access and ability to do the same.

Ms. Julietta Baums, co-CEO, Nomad Tours

A few years ago, Nomad tried to create bicycle tours along both sides of the Jordan River but the political reality cause the project to fail. It is necessary to ease access to the Jordan River for all types of tourism. Let us take Petra as a paradigm, or example. We began out first treks to Petra with pack animals in 1997 and originally the tourists we brought would only stay one day. Now our tours are benefiting the local community, Bedouin and Jordanian, food suppliers, those who own the pack animals, guides with special knowledge, those who run guest houses and camp sites, etc.

Similarly, people living on the shores of the Jordan River need to benefit from socially and environmentally responsible tourism. I think in relation to the Jordan River, we can focus on (1) hiking and trekking, (2) culture-tourism, and (3) special interest tourism such as agriculture, bird watching, volunteering, etc. The benefit of this type of development is that people will stay longer in the region and is more likely to return because of a feeling of connection to the area.

Right now there are very, very, very few opportunities for tour groups to stay overnight in the Jordan Valley, especially if you are traveling with a large group. This means that when we bring groups here we are forced to travel back to Amman each night. This is of course good for Amman but not for the smaller communities outside of Amman. Everything we do should work to increase the amount of time that tourists stay in the Jordan Valley. An organized
connection between the various sites in the Jordan Valley can help to keep tourists in the valley longer and to help them become aware of lesser known sites of interest.

Finally let me stress Community Based Tourism (CBT). CBT benefits local communities economically through the elements of homestays, lunch preparation, and the sale of local products and handicrafts.

Open Discussion

The floor was then opened to questions and comments from the conference participants. Select and summarized comments from the participants are as follows:

- Thank you for your comments today. Unfortunately you did not mention Palestine or the struggles facing people in Palestine. Palestinians do not full control our land or the tourist sites within Palestine because of the occupation. Palestinians do not have access to the Jordan River and in fact many of our natural water springs have been dried up due to actions taken by the Israeli government such as drilling wells near these springs which caused part of the land to turn to desert which never were before.
- This is a huge issue and in other events of FoEME there will be many discussions regarding the wells and water rights in Palestine and perhaps in the second session there will be more discussion of this.
- Tourism needs security and stability. How can tourism flourish if innocents are being attacked? If those on the Christian and Muslim side are not safe how can we move forward? I think we need to achieve a just and lasting peace in the area first. So again, how can we talk about tourism while the occupation is still a reality?
- I think we are discussing tourism on a small sustainable scale but you are absolutely right that tourism is very sensitive to media, crisis, etc. We are thinking of how to start small pockets of sustainable tourism in ways that benefit the local people while working on issues of peace at the same time.
- Each of you can serve as a messenger to your friends, neighbors, governments, that there is another way and that peace is possible and will happen.
- We all agree that the occupation should end but also, if areas have 40% unemployment for example, how can I help liberate my brothers when I cannot even feed my family? There is a common interest in ecotourism and it is something that can help develop our communities financially and ideally foster cooperation and understanding.
- I want everyone to know that we hope that the next conference regarding the Jordan River will be held in Jericho on the other side of the river. Again, I thank our panelists.

C. Jordan River Valley Mayors’ Panel and Open Discussion

Tourism Opportunities for Jordan Valley Communities
Moderated by Gidon Bromberg, Israeli Director, FoEME

Jordan River Community Mayors’ Panelists:
Ali Hussein Al-Delki, Mayor of Muaz Bin Jabal Governorate, Jordan
Sol Lavi Ben-Shimol, Tourism Director of Emek HaMayont Regional Council, Israel
Suleiman Romanin, Mayor of Al Auja, Palestine
Ali Hussein Al-Delki, Mayor of Muaz Bin Jabal Governorate, Jordan

I want to extend my thanks to Friends of the Earth and all of the agencies, international and otherwise, involved in the development of assistance to us, especially in regards to the Jordan Valley. Their support has helped us to raise the living standards of many people in the valley.

This is a very important conference and the recommendations and vision of this conference are really positive if they are to be implemented. We heard today about many positive projects some of which we have heard about for years, but until this moment most things have not actually taken place on the ground and this caused a large problem of trust between the citizens of these communities and those who represent and speak on behalf of some of these projects.

The Jordan Valley in general is an area with much potential as a tourist attraction. We thank God for the wise Hashemite leadership, part of the line from the Prophet Mohammad who prized patience, peace, and understanding. For this reason we have been patient like the late King Hussein but we need to move quickly and at a more committed level if we want to achieve these projects. I hope that tourism between Israel, Palestine, and Jordan will be developed and that we can make this a reality.

Of course I have to point out that many Palestinians will apply for permission to visit Israeli controlled areas and they will wait months and then the majority will be denied. Therefore we have to find a way for the cross boundary tourism we are discussing to include the Palestinians.

Where is the trust we are trying to build? Everything in the Middle East is associated with politics. I am not a politician but I am describing the Jordanian mainstream. Everything is related to politics. Any problem in tourism or security has an impact not only here but beyond the Middle East so in my opinion, and this is the Jordanian mainstream, the development of a strong tourism sector requires a true peace between Israel and Palestine. This must happen for us to move forward. There is a silent majority among the Israeli people who must speak out and demand changes. Should this actually happen all of the problems in the Middle East will be solved. Trust must be established. Cooperation and participation should take place among all peoples. I hope this will be the reality one day. Thank you and peace be upon you.

Gidon Bromberg, Israeli Director, FoEME

Thank you. I am happy to say that there are some concrete results and changes that have taken place on the ground. At FoEME we can identify large amounts of money being spent by donor countries to support changes in many local communities and we thank the cooperation and willingness of the mayors and local leaders in this development as well.
Sol Lavi Ben-Shimol, Tourism Director of Emek HaMayont Regional Council, Israel

Thank you very much. It is my pleasure to highlight the many joint activities taking place between our municipally and our neighboring Jordanian and Palestinian communities. This cooperation is mainly focused in the tourism and agriculture sectors. For example, the Jordan Gateway Project aims to develop a cross border industrial area. The Jordanian side of this project has been established and we are hopeful that advances will be made in Israel to link the two sides. Pesticide usage has decreased thanks to the great cooperative efforts to reintroduce predator birds into the Jordan River area. We are also very proud of some women’s project where we have brought together women from Israel, Palestine, and Jordan on hikes and other activities.

Of all of these initiatives, the Jordan River Peace Park is the most significant project that supports our values of peace, tourism, and cooperation. The Jordan River follows the full length of our municipality so we have been very active in creating the master plan for this Peace Park and related cooperative efforts. The tourism that takes place in our municipality already takes places surrounding ecology, history, and heritage. We have developed this type of tourism in our area.

Last month we launched in our municipality a project promoting slow tourism which is the opposite of fast tourism. We invite tourists not to run from place to place snapping photos and then leaving, but to stay and get to know the place and the people. The result is not just longer overnight visits and economic benefits but a whole connection with the rural lifestyle and the communities that live there, the youth, the artists, the farmers, etc. We built our concept based on other places, especially slow tourism in Italy, and it was created through dialogue with local people. The residents themselves determined that this was the type of tourism we wanted. We want people to visit our areas in this slow manner.

We see the rehabilitation of the Jordan River as something that can greatly benefit our communities and others with similar goals. Therefore, we see the need for joint learning and the possibility of developing a center for learning about slow tourism. The birds are a clear marketing advantage and this is another piece of the package we need to market together. There is no conflict for our community between tourism development and the agriculture sector because with a slow tourism approach we understand that we have to strike a balance to make things sustainable.

Suleiman Romanin, Mayor of Al Auja, Palestine

I want to thank Friends of the Earth Middle East for giving me a chance to speak regarding the situation of Palestinian people. Since 1967 Palestinians have had no control of their water resources. The Israeli occupation also pulls water from the Jordan River to irrigate their crops. We as Palestinians are extending our hands to cooperate on these issues and help rehabilitate the Jordan River. In addition we see the serious deterioration of the Jordan River in the last 50 years due to water diversion and water pollution.

In Palestine we are in a bad shape when it comes to our access to water and we do not even get the share historically allotted to us. Understanding is difficult when some have an abundance of water and others not even enough to quench our thirst. We in Auja thank Friends of the Earth Middle East for what they do and we ask them for further support and efforts to help the Jordan River and the surrounding region.
Auja Village donated land for Friends of the Earth Middle East to establish an ecocenter in Auja devoted to environmental learning and ecotourism and we are ready to continue cooperating and moving forward. Thank you for your attention. Peace be upon you.

**Gidon Bromberg, Israeli Director, FoEME**

I just want to clarify and emphasize that the FoEME's position is clear in our support for Palestinian rights which of course includes water rights. We continually speak out against the taking of water and the restricting of access to water by Israel that is so clearly illegal. We ask everyone to visit these areas and to see the reality so we can all speak in one voice regarding what needs to happen to achieve peace and justice.

**D. Jordan River Champions Award Ceremony**

Jordan River Championships Awards were presented to Alan Plattus, Yale University; Ali Hussein Al-Delki, Mayor of Muaz Bin Jabal Governorate, Jordan; Sol Lavi Ben-Shimol, Tourism Director of Emek HaMayont Regional Council, Israel; and Suleiman Romanin, Mayor of Al Auja, Palestine.

**E. Closing Statements**

**Gidon Bromberg, Israeli Director, FoEME**

We look forward to the next Jordan River conference to take place in Jericho as the largest city in the Jordan Valley. We will do our best to get all of the permissions necessary so that everyone can come together and meet in Jericho at that time.

In the coming months we will complete the economic study, we would appreciate your comments on the draft distributed yesterday to help us in finalizing this study. We will also be establishing a Lower Jordan River Council as a part of these efforts and local business representatives will be a large part of this council. Next month we will be in Brussels where we will participate in a large event at the European Parliament calling for a resolution regarding the issues we have been discussing the past two days on the Jordan River. Similarly we will be meeting with the U.S. Senate. Why are Europe and the United States decision makers involved in the process? Because the Jordan River does not only belong to us.

Our governments have not yet done enough to implement the changes we see as necessary to rehabilitate the Lower Jordan River. We now have concrete results and recommendations for how to proceed to rehabilitate the river. Concrete action is needed. When we began the conversation about how to rehabilitate the Lower Jordan River many years ago we focused on how we can come together and do this - but we are saying how and when, which is a very different conversation. I congratulate all that have aided in this shared regional effort.

**Nader Khateeb, Palestinian Director, FoEME**

Gidon didn’t leave much to say but I want to add that despite the difficulties and the tiny light at the end of the tunnel we believe that peace and justice will be a reality. This is the right of all people.

**Munqeth Mehyar, Jordanian Director, FoEME**

I can only echo what Nader and Gidon have already said because they have said it all. I hope this conference has added to everyone’s understanding of the issues and that we will all stay in contact and achieve this shared vision together.

**Gidon Bromberg, Israeli Director, FoEME**

We have some important people to thank. First let me thank all of the international guests who have traveled from far to share in this important initiative. We would also like to thank...
the entire Amman staff for their efforts and FoEME’s Jordan River Rehabilitation Project Coordinators including Elizabeth Ya'ari from Israel, Baha Afaneh from Jordan and Mansour Bader from Palestine. We also want to thank our funders – without your support this event could not take place including USAID, the Goldman Fund, Global Nature Fund and the Green Environment Fund. And thanks to all the many people that have joined us over these past two days.
5. Speakers Biographies

**FoEME is grateful for the participation of the following dignitaries and experts:**

**Her Royal Highness Princess Sumaya bint El Hassan**

Her Royal Highness Princess Sumaya bint El Hassan, second daughter of His Royal Highnesses Prince El Hassan bin Talal, was born in Amman, Jordan in 1971. A graduate of the Courtauld Institute of Art, University of London. She chairs the Board of Trustees of the Princess Sumaya University for Technology (PSUT).

In 2003, Princess Sumaya was asked by HRH Prince El Hassan Bin Talal, Chairman of the Royal Scientific Society (RSS), to join its Board of Trustees. Soon after, HRH expressed his confidence in her achievements for development of the PSUT, and, appointed her as the President of the (RSS) in 2006. Princess Sumaya is also the Deputy-Chair of the Higher Council for Science and Technology (HCST), a government body tasked with advising the government on public policy issues pertaining to science and technology in Jordan. Princess Sumaya is actively involved in institutional building to support the development of Jordan’s greatest source of wealth, its human capital, and supporting the use of science for peace and prosperity across Jordan and the wider region.

HRH Princess Sumaya began working on transforming the campus where she works into the ‘El Hassan Science City’ (EHSC), Jordan’s first science park. The EHSC aims to achieve greater socio-economic development through investments in education and research. As founder of EHSC, Her Royal Highness continues the tradition of institutional building in order to place science and technology in the service of humanity under the motto of “Science for Peace”.

**Mr. Mousa Jamaáni**

Mr. Jamaáni has served as the Secretary General of the Jordan Valley Authority since 2006. He is also the Jordanian Chair of the Steering Committee of the Red Sea-Dead Sea Water Conveyance Project Study. Having joined the Jordan Valley Authority in 1982 he is an expert in dams, irrigation and rural development projects. Mr. Jamaáni is a recipient of the Al-Kawkab Al-Urduni – 2nd degree medal. He holds a Masters Degree in Civil Engineering, Water Resources Planning and Management from Colorado State University, USA and BSc. in Civil Engineering from Bagdad University, Iraq.

**Dr. Mohammad Al Adwan**

Dr. Al Adwan is a Member of the Upper House of the Jordanian Parliament. *Unfortunately, the speaker’s written introduction and photograph were unavailable at the time of print.*
**Mr. Jay Knott**  
Mr. Knott is the Head of the United States Agency for International Development in Jordan. His responsibilities include directing programs on economic growth, health, water resources, education, and democracy and governance. His extensive history at USAID includes the positions of Deputy Mission Director in Ghana and Mission Director in Mozambique. He graduated from Yale University with a double major in Political Economy and African Studies. He received his law degree from the University of Pennsylvania in 1985 and practiced with the U.S. Department of Justice and in private before joining USAID in 1988.

**Véronique De Keyser**  
Since 2001, Ms. De Keyser has served as a Member of the European Parliament. She is the Vice President of the Group of the Progressive Alliance of Socialists and Democrats in the European Parliament (S&D Group) and currently serves as the Vice Chairwoman of the European Parliament Working Group on the Middle East. As Vice President of the S&D Group, the second largest political party in the European Parliament Ms. De Keyser is in charge of the Group’s policies in international development, international trade, and human rights. She earned a degree in Psychology from the Free University of Brussels (FUB) in 1968, obtained her doctorate in Psychology in 1974, and has had an extensive, international career in academia.

**Melanie Hutchinson**  
Melanie Hutchinson is an Associate Programme Officer at the United Nations Environment Programme Regional Office for West Asia and is also a specialist in Environmental Management Systems (EMS) and Environmental Impact Assessment (EIA). She has a Masters Degree in Environmental Analysis and Dynamics. Melanie has also worked in South-east Asia, project managing EIAs for a variety of water resource management projects, including fieldwork, analysis and report presentation to the relevant Ministries.

**Dr. Sarig Gafny**  
Dr. Gafny is currently the Head of the Department for Marine Environment Sciences in the School of Marine Sciences at the Ruppin Academic Center in Israel. Dr. Gafny is an expert in the ecology and restoration of freshwater bodies with a special emphasis on Aquatic Conservation. He holds a Ph.D. in Limnology from Tel Aviv University in Israel followed by a Post Doctorate at the Center for Limnology at the University of Wisconsin-Madison in the United States.
Dr. Samer Talozi
Dr. Talozi currently works as an Assistant Professor in the Civil Engineering Department at the JUST. He has over 10 years of experience in water resources management. He holds a Ph.D. and MSc. in Water Resources and Irrigation Engineering from the University of California-Davis (US) and a B.Sc. in Irrigation Engineering from the Jordan University of Science and Technology (JUST) in Irbid, Jordan.

Banan Al Sheikh
Mr. Al Sheikh currently works as a Plant Biodiversity Expert in the Department of Applied Earth and Environmental Sciences at Al Quds University and authored the Preliminary Checklist and Ecological Database of Plants of the West Bank. He holds a M.Sc. degree in Plant Taxonomy from Reading University in the United Kingdom.

Tatyana Gorskaya
Ms. Gorskaya is an Environmental Management Expert with a M.Sc degree in Chemistry from Kishinev State University, Moldova. Ms. Gorskaya is an expert in Environmental Management and Planning including research, planning, project cycle coordination, monitoring and evaluation related to environmental and socio-economic projects. She is also an expert in current status assessment, reconnaissance surveys, public consultation meetings, the preparation of Environmental Management Plans (EMPs), conducting environmental auditing and compliance with the environmental legislation, environmental economics and feasibility of environmental projects.

Taleb Harthi
Dr. Harthi is the Director of Natural Resources Authority, Palestine and consultant in the Environment Health Unit in the Ministry of Health. In the past he served as a supervisor for Environmental Impact Assessment Studies for the Energy and Natural Resources projects in the Energy & Natural Resources Authority of Palestine and has worked with the Palestinian Environment Quality Authority. He holds a M.Sc. in Geology & Environment from the University of Jordan, and Ph.D. in Geology and Environment from the Technical University of Hanover, Germany.

Gadi Rosenthal
Dr. Rosenthal is the CEO of Kivun Consulting for Strategy, Economics and Business Development, Israel. He also serves as an economic and strategic consultant for the Ministry of Environmental Protection in Israel. Dr. Rosenthal is an expert in strategy-building, economic analysis, business planning and financing with an emphasis on environment, water and sewage, agriculture, R&D, industry, and structural changes. He holds an MA in Business Management from Tel-Aviv University in Israel. Unfortunately, the speaker’s photograph was unavailable at the time of print.
**Alan Plattus**  
Mr. Plattus is a Professor of Architecture and Urbanism at Yale University School of Architecture, USA. He teaches courses on architectural history and theory, urban history and design, and directs the School’s China Studio. He founded and directs the Yale Urban Design Workshop, a community design center that has undertaken urban design and building projects throughout Connecticut. He has lectured and published on the history of cities and civic pageantry, as well as on modern architecture and urbanism.

**Marion Hammerl**  
Since 2002, Ms. Hammerl has served as the President of the Global Nature Fund. She is also the co-founder of the ECOCAMPING Association and serves on its Board of Directors. She is committed to nature conservation service through her positions as Managing Director of Lake Constance Foundation (Germany), Co-founder and on board of directors of ECOTRANS (Spain), and many other tourism and environmental organizations throughout Germany and Spain. She holds a degree in Economics.

**Ali Hussein Al-Delki**  
Ali Hussein Al-Delki was born and raised in the Jordan River Valley. After earning a BA in Business Administration, he served in the Royal Jordanian Armed Forces. Lieutenant Colonel Al-Delki served in the Jordanian Peace Force as part of the UN peacekeeping missions to Mozambique (1994) and Kosovo (1999). In 2007, he was elected Mayor of Muaz Bin Jabal Governorate. As Mayor, he has shown great leadership to rehabilitate the Jordan River, establish the proposed trans-boundary Jordan River Peace Park, and encourage construction and funding for a sewage treatment plant. Mayor Al Delki is also a member of the Muaz Bin Jabal Charitable Organization.

**Suleiman Romanin**  
Suleiman Romanin is the Mayor of Auja village, located in the Jordan Valley, West Bank, Palestine. Mr. Romanin has led ecotourism focused development initiatives in his community including the donation of municipal land to create the "Jordan Rift Valley Center for Environmental Education and Eco-Tourism Development" in his village, the first of its kind in the West Bank. This Center aims to be a focal point for environmental awareness on the importance of the Jordan Valley with its second story guesthouse designed to encourage Auja residents of the potential to initiate other eco-tourism type projects in the community.
Sol Lavi Ben-Shimol
Ms. Lavi Ben-Shimol is the Tourism Director of Valley of Springs (Emek HaMayanot) Regional Council in Israel. In 2009, the Regional Council inaugurated a new sewage treatment plant which serves all of the area's residents and removes pollutants from the Harod Stream, a major tributary of the Lower Jordan River. The Regional Council continues to advance rehabilitation and tourism in the Lower Jordan River, and supports FoEME’s Good Water Neighbors program to promote environmental awareness, wise-water buildings, public awareness about the Lower Jordan River and the transboundary Jordan River Peace Park.

Manfred Schreiber
Mr. Schreiber has over 30 years experience of traveling throughout the Middle East. In 1984 he became an official tour guide in both the Middle East and Asia. Since 1988 Manfred has held the position of Area Manager Middle East for Studiosus Reisen. He studied political science and economics in Munich and Berlin from 1976-1984, earning a Master of Arts in Political Science.

Julietta Baums
Ms. Baums is a co-CEO of Nomad: Travel to the People, founded in 1993. Nomad is renowned for organizing tours throughout the Islamic world, including locations such as the Middle East, Central Asia, and North Africa. Nomad also provides personalized trips for individual travelers, as well as guided tours with experienced local journalists for German media.
6. **Further Information**

For more information on the Jordan River Rehabilitation Project or to receive copies of the presentations given or the drafts of the studies please contact:

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