



HIGHLAND WATER FORUM

11th Session Highland Water Action Plan

“Finalisation and Endorsement of the Azraq Groundwater Management Action Plan”

Azraq, 8 July 2013

The Highland Water Forum Secretariat

The Highland Water Forum (HWF) 11th meeting aimed to conclude the final remarks and comments of its members, produce and endorse the final version of the Azraq Groundwater Management Action Plan. The meeting was presided by his Excellency Engineer Bassem Telfah, the Secretary General of the Ministry of Water and Irrigation and attended by a number of the Highland Water Forum members and the donor community. The Action Plan will then be submitted to MWI and requested to adopt it as one of its executive plans.

Background

The Highland Groundwater aquifers, particularly the Amman-Zarqa and Al-Azraq, are heavily over-pumped to a level of approximately 200% of their natural replenishment rates. Irrigated agriculture is the largest consumer of the pumped water as it consumes almost half of the abstracted groundwater. In light of increasing water scarcity in Jordan and, thus, growing competition for water resources, the pressure to reduce water consumption of agriculture is mounting.

In the light of the Ministry of Water and Irrigation (MWI) efforts to reduce over-abstraction from renewable aquifers, the Highland Water Forum (HWF) was established to reach sustainable management of groundwater resources in the Jordanian Highlands by involving the water users, mainly the farmers, in the decision making process. Under the patronage of His Royal Highness Prince Faisal Bin Al Hussein, the Highland Water Forum was established for Al-Azraq Groundwater Basin and mandated by the Prime Ministry with the task of developing an action plan that meets the needs of the water users in that area and supports MWI in implementing its National Water Strategy to protect groundwater resources. The members of the forum are representatives of the water users (most notably the farmers), the local community, and relevant governmental and non-governmental organisations.

The aforementioned Groundwater Management Action Plan is composed of the following pillars:

- 1. Legal and Institutional Framework Conditions:** to empower governmental institutions to better monitor and control groundwater resources and effectively enforce laws and regulations.
- 2. On-farm Water Use Efficiency:** to increase water use efficiency and promote best practices which contribute to optimised use of irrigation water.
- 3. Water-Responsible Income-Generating Activities:** to promote and divert investments in the target areas toward non-water intensive activities, like eco-tourism and power-generation using green energy. In addition, it refers also to supporting farmers who are willing to leave agriculture to establish their businesses in other sectors that are lucrative and not water-intensive.
- 4. Community Development:** to raise the awareness and induce behavioural change towards water-efficient practices, and to shift the dependence of the rural economy from agriculture to an economy that thrives on various sectors.

Objectives of the Eleventh Meeting

The main objective of the meeting was to discuss and conclude the remarks and comments of the Highland Water Forum members and reach consensus on the final version of the Azraq Groundwater Management Action Plan in order to endorse this action plan which ultimately aims to realise the National Water Strategy for the years 2008-2022.

Since its establishment, the Highland Water Forum has worked to improve the communication between the different parties and contribute to creating a common ground between the Ministry of Water and Irrigation on one hand and the farming and the local communities on the other hand, while providing the opportunity to all stakeholders to discuss and share.

Due to the comprehensiveness of the action plan, the need called for discussing it thoroughly with the members in order to receive their feedback and collect their final remarks, comments and recommendations. Therefore, during the weeks that preceded the 11th working session, the Highland Water Forum members were divided into small working groups of 3 to 4 members with whom the Secretariat met to discuss the action plan at length.

Other objectives that these small working groups served included: (i) reminding the forum members of the main goal of the HWF, and (ii) keeping the HWF members updated with regard to the on-going studies and projects in the Ministry of Water and Irrigation.

Meeting Venue and Agenda

The 11th Highland Water Forum meeting was held at the Municipality Hall in Azraq. It was attended by the Forum members and some representatives of the donor community. The meeting was presided by His Excellency Eng. Basem Telfah, The Secretary General of the Ministry of Water and Irrigation. Please consult annexes (1) and (2) for the agenda and the list of attendees.

Meeting Proceedings

The meeting started by a welcoming note by HE Eng. Bassem Telfah and followed by a discussion session to finalise the comments and suggestions that were raised during the working group meetings that were held in preparation to the Highland Water Forum members.

HE Eng. Telfah thanked the participants for their attendance and the donor community for their continuous support and contribution to the success of the Highland Water Forum.

He highlighted the role of the Highland Water Forum in addressing the problem of groundwater over-abstraction in Al-Azraq Groundwater Basin, manifested in developing a comprehensive and participatory action plan of four pillars.

HE Eng. Telfah insisted that the Forum is not, and will not be used as coverage for anyone to violate or break the laws and regulations. He assured that the Ministry of Water and Irrigation is keen on enforcing the laws and implementing regulations and directives in a fair and impartial manner.

HE noted that there are many initiatives which are going on in the Ministry of Water and Irrigation as follows:

- 1- The energy farming initiative which will start soon on producing the electricity by using the solar energy.
- 2- A socio-economic study to capture the farming conditions all over the Kingdom is being implemented and the results will be available in six months.
- 3- There is a cooperation agreement with the United States National Aeronautics and Space Administration (NASA) to provide Jordan with satellite images for the Kingdom, including the Azraq Groundwater Basin, in order to obtain accurate data on the agricultural areas and abstracted quantities of water.
- 4- Telemetry initiative that aims to automate and transfer water abstraction data wirelessly to the Ministry of Water and Irrigation for monitoring and decision-making purposes.

Engineer Emad Al-Khalil from the Highland Water Forum Secretariat reminded the participants with the main goal and the sub-objectives of the Forum. **After explaining the methodology that was followed for consolidating the comments and feedback of the forum members on the action plan,** the floor was opened to discuss the action plan. The discussion was structured as follows:

1. Activities that were modified, or that some participants have reservations on, and
2. New suggestions to be added to the Highland Water Forum Action Plan.

The following pages document the discussions that took place and the points of discussion.

1. Activities that were modified, or that some participants have reservations on

No.	The Original Statement	Working Group Suggestion	Approved/ Not approved	The Agreed Suggestion / Agreed Next Steps
1.	<p>Activity 1.2.1. Cross-sector coordination is established and led by MWI to align the strategies of the different governmental entities with that of MWI.</p> <p>b. Resolve the current status of illegal lands.</p>	<p>Suggestion for 1.2.1.b: Settlement means that the illegal landowner will not pay the money (the price of his land) to the government. It is proposed that illegal land owners pay the real value of their lands, or to compensate the legal ones by returning the price of their lands.</p>	Not approved	<p>The assembly did not reach an agreement because the relevance of this point to groundwater over-abstraction in the basin could not be established.</p> <p>With the possibility of revisiting this point in the future, it was agreed not to include 1.2.1.b in the action plan.</p>
2.	<p>Activity 1.2.3. Role alignment between the water-governing authorities and the judicial and executive governmental entities responsible of enforcing the law is established.</p> <p>a. Establish a Water Court to deal with water-related issues (water rights, disputes, violations).</p>	<p>Four years ago, there was an attempt to establish a court that deals only with water-related issues, however, it didn't succeed.</p>	Not approved	<p>The assembly agreed to omit point 1.2.3.a altogether.</p>
3.	<p>Activity 1.4.1. The Highland Water Forum is institutionalised as a consultative entity to MWI.</p> <p>a. Establish a structure within MWI and establish supportive institutional and juridical framework.</p> <p>b. The stakeholders are regularly consulted (at least twice a year, or as the need arises) to update the Highland Water Action Plan and monitor its implementation.</p>	<p>Establish a non-profit association consisting of HWF members representing MWI, farmers and local community to ensure the continuation of the consultation process between all stakeholders after the project. The HWF members will be responsible for the implementation of the action plan.</p> <p><u>Suggestion for point 1.4.1.b</u> To increase the number of meetings per year, to four meetings instead of two.</p>	Approved	<ul style="list-style-type: none"> ▪ Institutionalisation of the Highland Water Forum is a step that the Ministry of Water and Irrigation supports, however scenarios on how to institutionalise the HWF are still to be developed. One of the options could be to institutionalise the Highland Water Forum Secretariat as a unit within the structure of the Ministry of Water and Irrigation. ▪ The forum members are the only consultative body for the Ministry with regard to the Azraq Groundwater basin area, therefore it is crucial to define who the HWF members are and the basis for their nomination. ▪ The consultation process between all stakeholders will continue even after the phase out of the project. ▪ With regard to the Highland Water Forum financing structure, how the funds will flow, and who will be in charge, etc. This belongs to activity 1.4.2 (c.f. Action Plan). With this regard, the French Agency for Development (AFD) will be financing the feasibility study

			that is mentioned in activity 1.4.2.a. The tender was announced by Government's General Tendering Department on behalf of MWI, and the deadline for receiving expressions of interest is 15 August, 2013.
4.	<p>Activity 1.4.3. Water users associations in the Highlands are established.</p> <p>a. Regulate the relationship between WUAs in the Highlands and WAJ (e.g. grant them permission to abstract water for irrigation from one or several wells and distribute it to several farms).</p> <p>b. Involve the water users in the management of Azraq groundwater basin through the WUAs.</p>	<p>The HWF expressed their concerns as to whether the water users associations are the optimal solution for managing the groundwater resources in the Highlands as is the case in the Jordan Valley. They mentioned that Water Users Associations are possible if MWI can close all the private wells and dig its own wells to provide farmers with water.</p>	<p>Approved</p> <p>The text was amended as such: "The establishment of the Water users associations in the Highlands in a way that ensures the reduction in the groundwater abstraction is studied.</p> <p>a. Study how to regulate the relationship between WUAs in the Highlands and WAJ (e.g. grant them permission to abstract water for irrigation from one or several wells and distribute it to several farms).</p> <p>b. study how to involve the water users in the management of Azraq groundwater basin through the WUAs".</p>
5.	<p>Activity 1.5.1. Bilateral and multi-lateral cooperation with neighboring states is effectively pursued.</p> <p>a. Regular and transparent information flows are in place through bilateral agreements/negotiations and cooperation efforts with Syria for the Northern groundwater basins.</p> <p>b. Government negotiations outcomes are made transparent to the public.</p>	<p>The assembly agreed that cooperation and bilateral agreement should be conducted with all neighbouring countries, not only with Syria.</p>	<p>Approved</p> <p>The point (a) was reformulated as the following: "Regular and transparent information flows are in place through bilateral agreements/negotiations and cooperation efforts with the neighbouring countries for the shared groundwater basins."</p>
6.	<p>Activity 3.1.1. A compensation mechanism is in place to buy out farming activities on a voluntary basis.</p> <p>a. A feasibility study on groundwater rights at market prices in the Highlands is conducted.</p> <p>b. A buying-out farms mechanism is established by the Government (the cost of the buy-out is not included in the total of this intervention).</p>	<p>The farmers suggested that MWI rents their wells instead of digging new ones to secure water supply for drinking purposes, or that MWI buys certain quantities (m³/ hr) of the annual production of wells. This way, a kind of compromise between the Ministry and the farmers can be reached to reduce the planted area.</p>	<p>Approved</p> <p>This suggestion was approved as one of the already practiced and valid tools for the buy out that can be used by the Ministry in the future.</p>

7.	<p>Activity 4.2.3. The construction of rain and surface water harvesting structures at the basin level is encouraged. (Proposed by farmers of the stone fruit professional farms exist in Mafrq).</p> <p>a. Assessment of the potential location for dams at the basin level.</p> <p>b. construct dams and water harvesting structures at the basin level for the different uses.</p>	<p>There was consensus regarding the importance of this activity, and that there is an urgent need to make use of every drop of the rain and flood water.</p>	Approved	<p>It was also agreed that the participants, especially the local community, should shoulder part of the responsibility as well as contribute to managing these structures.</p>
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2. New suggestions to be added to the Highland Water Forum Action Plan

No.	The Suggestion	Approved/ Not approved	The Agreed Suggestion / Agreed Next Steps
1.	<p>Activate the role of the National Centre for Agricultural Research and Extension (NCARE) in Al-Azraq Groundwater Basin area.</p>	Approved	<ul style="list-style-type: none"> - Coordinate with Mr. Fawzi Al-Sheyyab, the director of NCARE to provide farmers with the necessary extension services in Al-Azraq Basin area as one objective of the forum. - Send NCARE a nomination letter to ask for a representative to attend the forum's meeting.
2.	<p>Maintain the existing water harvesting structures and construct the dams in the appropriate places. Harvest the rainwater and exploit the storage of water in an optimal manner.</p>	Approved	<ul style="list-style-type: none"> - Assign a team from the Ministry of Water and Irrigation to inventory the water harvesting structures all over the Kingdom; their locations, storage capacity and where the stored water can be used. - Assess the kind of the maintenance that is required for the existing structures in case there is a need. - Determine the potential locations for new water harvesting structures. - Coordinate with all relevant institutions; Jordan Valley Authority, Ministry of Agriculture, the armed force before building new structures. - Conduct the required environmental and social impact studies and conduct public hearings to consult the local communities prior to the construction of the dams or other water harvesting structures.
3.	<p>Activate the Agricultural Risk Management Fund.</p>	Approved	<ul style="list-style-type: none"> - Address the Ministry of Agriculture and coordinate with it with regard to the working mechanism of the Fund. <p><u>Comment from the representative of the agricultural directorate in Jiza:</u> After the restructuring in the Agriculture sector, the Risk Management Fund now belongs to the Ministry itself.</p>

4.	Activate the role of the Farmer's Union in Al-Azraq Groundwater Basin area to provide farmers with all required extension, agricultural and marketing services.	Approved	- Address the Ministry of Agriculture and coordinate with them with regard to the possibility of implementing this point.
5.	Augment the water supply resources through the followings: a. Drag water from water-rich neighbouring countries like Turkey and Iraq. b. Implement the Dead-Red Sea Canal project. c. Desalinate saline and brackish water.	Approved	
6.	Tap into key innovation experiences of the neighbouring countries like the United Arab Emirates with regard to the use of brackish water.	Approved	
7.	Construct dams and diversion weirs to capture the natural floods which arrive from the eastern boundaries of the Kingdom (Hammad and Rwaished), Syria and Iraq and divert the water towards the wetland and Al-Qa'a in Azraq. Also, It might be collected in certain areas and injected in the groundwater basin.	Approved	<u>Comment from the farmer Majdi Al-Ugaily:</u> there are studies done with the cooperation of Ministry of Agriculture and University of Jordan on the optimal use and exploitation of the Wadi water, flood water and water harvesting to be shared with the Highland Water Forum Secretariat.
8.	Coordinate with all the supporting parties and donor agencies of the Syrian refugee camps in Jordan and other related governmental institutions to construct projects at the basin level.	Approved and in progress	<u>Comment from Eng. Nisreen Hadadadin, the Water Demand Management Unit Director in MWI:</u> Coordination has already started between the Ministry of Water and Irrigation and the donor agencies. The Ministry submitted a number of development projects, among which is a project to build a wastewater treatment plant in Al-Azraq area.
9.	Determine the amounts of available groundwater, allocate them to the different sectors, and announce these allocations. As for the agricultural allocation, the amount is to be discussed through the Highland Water Forum. Based on that, the cultivable agriculture area should be communicated.	Approved	The text was amended as such: "Determine the amounts of available groundwater in each Basin, allocate them to the different sectors, and announce these allocations. As for the agricultural sector, the announced allocation is to be discussed through the Highland Water Forum. Consequently, the cultivated areas should be determined in such a way that will not harm the existing, feasible agricultural investments, and implement the allocations through a long-term strategic plan".

10.	Amend some of the institutional procedures and develop new banking/loan facilitation services to allow farmers to take loans with less interest in order to import new and up-to-date technology of irrigation systems, or to install solar photovoltaic plant to produce electricity from the solar energy and sell it to the electricity grid as an alternative investment opportunity and income source instead of agriculture.	Approved	<ul style="list-style-type: none"> ▪ “Institutional procedures” are not well defined. ▪ There were doubts whether the commercial banks in Jordan can provide farmers with certain facilitation services on loans. ▪ The farmers said that the only lending institution for farmers is the Agricultural Credit Corporation, which has low budget and in most cases cannot lend farmers big loans. Also, the internal lending procedures of the Corporation are complicated and the interest on loans is a compound one. There is a request to revise these procedures and amend them. <p>It is worth mentioning that AFD has an agreement with some Jordanian Banks to provide special lending services with low interest for the investors who investing in green technologies. The Secretariat will ask AFD for more information and provide them to the Ministry and HWF members.</p> <ul style="list-style-type: none"> ▪ It was agreed on the following formulation: “Amend some of the institutional procedures of the Agricultural Credit Corporation, and agree on new bank facilitation services to allow farmers to take loans with low interest in order to import new and up-to-date technology of the irrigation systems, or to install solar photovoltaic plant to produce electricity from the solar energy and sell it to the electricity grid as an alternative investment opportunity and income source instead of agriculture.”
11.	Study the existing agricultural investments taking into consideration the farms’ economical and social situation. Additionally, come up with solutions that achieve the objectives of the Highland Water Forum in consultation with the farmers, in particular with regard to the cultivated areas and regulation of the legal status of wells, and closing down of unfeasible agricultural investments regardless of their legal statuses.	Approved	The text was amended as such: “Study the existing agricultural investments taking into consideration the farms’ economical and social situation. Additionally, come up with solutions that achieve the objectives of the Highland Water Forum in consultation with the farmers. Amend and organise the wells’ legal statuses and take disciplinary measures against violators according to laws and regulations.”
12.	Put in place a bylaw to legalise the use of saline water at a tariff that is different than that for fresh water to allow citizens to drill wells to abstract saline water for salt production, desalination, or for general use.	Approved	Although the use of saline water at reduced prices is already mentioned in the current Underground Water Control By-law for the year 2002, it is not being implemented in Al-Azaq Basin. The Highland Water Forum recommends its implementation. His Excellency the Secretary General mentioned that it is within the plans of MWI for the years beyond 2020 to tap into saline/ brackish water; e.g. desalination of seawater and groundwater plants to supply drinking water. He also mentioned that the Ministry will tap into the deep aquifers (2,000m).

13.	Issue a unified license from a single governmental institution (as opposed to having to get so many different licenses from so many different institutions). This license should be renewed annually and includes all of the licenses, approvals and permits that are issued to the farmer requires. Examples of the information that this license should include: abstraction, well license, land license, labour permits, etc. the purpose for this license is to relieve the farmer from having to approach so many different institutions, and to relieve the governmental entities from having to form many committees and go through so many procedures.	Not approved	
14.	Amend the Underground Water Control By-law for the year 2002 and implement it equally on all well-owners based on area and crop water requirement instead of water meters such that either every 200du of vegetables receive a free allowable amount of 1,000m ³ /du/yr, or every 300du of trees receive a free allowable amount of 700m ³ /du/yr.	Approved	The text was amended as such: "Study the amendment of the Underground Water Control By-law for the year 2002 and implement it fairly on all well-owners, including Azraq area while taking into consideration the possibility of using the irrigated area and the kind of agriculture as one of the bases for determining the price and the abstracted amount".

During the discussion, other general points and suggestions were raised as the followings:

Until now, Azraq doesn't benefit from the Gulf War reparations which were allocated to Jordan with a total amount of 160 Million JDs. There is a request to sponsor the rehabilitation/ rebuilding of the salt factory in Azraq with a total cost of 3.5-5 Million JDs.

The Ministry of Water and Irrigation is now backfilling the illegal wells. To solve the problem of illegal wells completely, we suggest amending the Underground Water Control By-law for the year 2002 to allow the government to confiscate illegal wells and lands instead of only backfilling them.

The Royal Geographic Centre demonstrated clear commitment to produce comprehensive maps for all groundwater basins by using GIS and aerial photos.

With regard to the activities that require joining the efforts of the water-governing authorities and other relevant parties (e.g. Ministry of Agriculture), it is recommended to draft a recommendation paper for each institution explaining the activities, modes of cooperation and options for coordination as a first step towards the implementation of the action plan.

Conclusion

The Highland Water Forum 11th meeting was presided by His Excellency the Secretary General of the MWI and all Forum members. The meeting aimed to discuss, finalise, and endorse the Azraq Groundwater Management Action Plan.

In preparation for the 11th working session, the Highland Water Forum members were divided into small groups of 3 to 4 persons. These small working groups were invited separately to go through the action plan together with the Highland Water Forum Secretariat in order to collect their remarks, comments and recommendations. Before including them in the action plan, however, these comments were discussed about all HWF members in plenary during the 11th HWF meeting.

With regard to the activities that require joining the efforts of the water-governing authorities and other relevant parties (e.g. Ministry of Agriculture), it is recommended to draft a recommendation paper for each institution explaining the activities, modes of cooperation and options for coordination as a first step towards the implementation of the action plan.

Upon finalising the Azraq Groundwater Management Action Plan, the Highland water Forum Secretariat will officially submit it to MWI in order to integrate it within the Ministry's executive plans. The Secretariat will also disseminate it to all HWF members and made public.

The vision of the Ministry of Water and Irrigation for the Highland Water Forum is to continue as an advisory and strategic partner to MWI in the future. The Ministry is now studying the options to institutionalise the Highland Water Forum and its Secretariat.

The feasibility study of the Highland Water financing structure will offer options and scenarios on the operation, management, and administration of the fund, which will be ready beginning of the year 2014.

Annexes:

Annex 1: Agenda of the Highland Water Forum 11th Meeting.

**Agenda of
The Highland Water Forum 11th Meeting
“Finalisation and Endorsement of Al-Azraq Groundwater Management Action
Plan”
Monday 8th July 2013 – Municipality Hall, Al-Azraq**

10:00	Arrival and Registration
10:30	Welcoming note of HE Secretary General of MoWI Eng. Basem Telfah.
	<u>The first working session:</u>
10:40	<ul style="list-style-type: none">• Finalisation of the first and second pillars of ‘Al-Azraq Groundwater Management Action Plan’ and presentation of the Core Group members comments• Open discussion and agreement on a final document
12:30	Coffee Break
	<u>The second working session:</u>
1:00	<ul style="list-style-type: none">• Finalisation of the third and fourth pillars of ‘Al-Azraq Groundwater Management Action Plan’ and presentation of the Core Group members comments• Open discussion and agreement on a final document
2:00	Lunch Break

As for transportation, two buses will be provided for various participants as follows:

1. The first bus will take off from North Badia governorate at 9:00 a.m.
2. The second bus will take off from Amman in front of the Ministry of Agriculture at 8:15 a.m.

Annex 2: names of attendees of the Highland Water Forum 11th Meeting.

NB	Title	Name	Organisation	Job title	status	Tel	Mobile	Fax	Email
1	Eng.	Mohammad Al-Fahed	Directorate agriculture North Badia	Director	core group member	02-6282025	0799063937	02-6282025	-
2	HE Eng.	Basem Telfah	Ministry of Water and Irrigation		core group member	5652267		565287	-
3	Mr.	Faisal Al-Msaied	Local Governor of Azraq	Governer	core group member	05-3834001	797539700	3834001	-
4	Mr.	Hamdi Sara	Farmer	Farmer	core group member	05-3834424	0775582094	05-3834424	hamdisara00@??
5	Mr.	Hassan Katbeh	WAJ (Water Authority of Jordan, Office / Al Mafrag)	Director of WAJ office	core group member		799654047	02-6231155	H-katbeh@hotmail.com
6	Mr.	Hazem Al-Hreisha	RSCN (Royal Society for the Conservation of Nature)	Reserve Manager	core group member		795252678	05-3835017	hazem.khreisha@rscn.org.jo
7	Eng.	Khalil Radwan	Farmer	Farmer	core group member	5715420	0795507155	5715420-4205658	-
8	Ms.	Mai Al-Khatib	Farmer	Farmer	core group member	05-3834030	795800013		-
9	Eng.	Mohammad Al-Hawi	WAJ (Water Authority of Jordan, Office / Azraq)	Director of WAJ office	core group member	05-3835139	777974700	53835139	mohdalhawi@yahoo.com
10	Mr.	Mohammad semdah	local community leader -Azraq		core group member		776221718		-
11	Mr.	Mohammad Shafer Al-Fayez	Farmer	Farmer	core group member		0795529592	5857593	mohammadshafer@hotmail.com
12	Mr.	Mushawesh Al-Sahim	Farmer	Farmer	core group member	06-4024399	0776131111	5812191	-
13	Mr.	Nazeh Al bassar	local community leader -Azraq		core group member		795797973		-
14	Ms.	Nisreen Haddadin	Ministry of Water and Irrigation	Director of Water Demand Management Unit	core group member				Nisreen_Haddadin@mwi.gov.jo
15	Mr.	Okla Rakad Al-Shabib	Farmer	Farmer	core group member		785508241		-
16	Dr.	Ossama Al-Zioud	Farmer	Farmer	core group member		0776118800, 07950098	05-3983205	oszyoud@yahoo.com
17	Mr.	Salameh Al-Khoshman	Farmer	Farmer	core group member		0795199561	02-6234256	n/a
18	Mr.	Salem Mousa Al-Zayadneh	Farmer	Farmer	core group member		0795625282	02-6282380	Kalzayadneh@yahoo.com
19		Su'ad Al-Naser	Ministry of Water and Irrigation	Highland Water Forum Secretariat	Secretariat member				-
20	Ms.	Suha Al-Moghrabi	Ministry of Water and Irrigation	Media Department	service provider		796545772		suhamughraby@yahoo.com
21	Mr.	Zayed Arab Al-Aoun	Farmer	Farmer	core group member		0795655892		-
22	Eng.	Nivin Hassan	Royal Jordan Geographic Center	Head of Section	advisory board		0795055866		nivin1000@yahoo.com
23	Ms.	Intesar Al-Hihi	Royal Jordan Geographic Center	Researcher at Remote Sensing Section	advisory board		0799560231		enthihi@gmail.com

NB	Title	Name	Organisation	Job title	status	Tel	Mobile	Fax	Email
24	Eng.	Wafa' Shehadeh	Ministry of Water and Irrigation						-
25	Eng.	Youssef Al-Rawahneh	Ministry of Agriculture	Assistant Director of Agricultural Directorate / Jiza	core group member	06-4460170	0772067314		-
26	Mr.	Abdelwahed Abu-Howeidi	Farmer	Farmer	visitor		0778546796		-
27	Eng.	Haidar Malhas	USAid - ISSP	Project Officer	visitor	5671158	0796062016, 0775757992		hmalhas@isspjordan.org
28	Eng.	Majdi Aqili	Farmer	Farmer	visitor	05-3834188	0775473135		majdi_aqili@yahoo.com
29	Ms.	Ghada Jaber	Ministry of Water and Irrigation	Media Department	service provider	5652290	0779942000		ghada.jaber2000@windowslive.com
30	Ms.	Zakia Abu	local community		visitor				-
31	Mr.	Maher Al-Khreisha	Royal Department for Environmental Protection		visitor		0779662827		-
32	Mr.	Yasser Al-Shawabkeh	Police Security Directorate		visitor		0777284328		-
33	Mr.	Ahmad Irheil Hamad	Royal Department for Environmental Protection		core group member		0779470842		-
34	Ms.	Majd Al-Naber	Wageningen University	PhD Student			0775211735		majd_alnaber@hotmail.com
35	Ms.	Sylvie Jansen	Ghent University	PhD Student					-
36	Ms.	Emilie Stander	USAid	Water Adviser	core group member		0796002125		estander@usaid.gov
37	Ms.	Tuleen Al-Khoffash	USAid	WRE Specialist	visitor				tkhoffash@usaid.gov
38	Mr.	Ahmad Khalaf	Ministry of Agriculture	Driver	visitor				
39	Mr.	Iyad the SG's chauffeur	Ministry of Water and Irrigation						
40	Mr.	Ossama the SG's chauffeur	Ministry of Water and Irrigation						
41	Mr.	Ala'a Abu Ali	GIZ						
42	Mr.	Emad Al-Khalil	GIZ						
43	Ms.	Mai Al-Dergham-Aqeel	GIZ						
44	Ms.	Nour Habjoka	GIZ						
45	Ms.	Neda' Diab	Truevision co						
46	Mr.	Kamal Diab	Truevision co						
47	Mr.	Translator #1	Truevision co						
48	Mr.	Translator #2	Truevision co						
49	Mr.	Photographer (still)	Truevision co						
50	Mr.	Photographer (video)	Truevision co						