



## **Report of support to the Federal Government of Somalia in raising awareness and capacity in critical water-related issues in order to advance Integrated Water Resources Management**

### **Background**

The SDG 6 IWRM Support Programme (SP) assists governments in designing and implementing country-led responses to SDG indicator 6.5.1—the degree of implementation of Integrated Water Resources Management (IWRM)—as an entry point to accelerate progress towards the achievement of water-related SDGs and other development goals, in line with national priorities. This initiative is driven by UNEP-DHI Centre, Global Water Partnership (GWP) and UNDP Cap-Net under the leadership of UN Environment, the custodian agency for the SDG indicator 6.5.1. The SP has been operating in different guises since 2017, and operates through three stages, as shown in figure 1.

The SP is primarily a country-based programme, designed and implemented by national stakeholders, with an overarching global and regional coordination and support facility. A key condition of the SP country-level interventions is a demonstrable commitment from a national institution with a clear mandate for SDG/IWRM implementation. In addition, an identifiable process/programmatic entry point through which to anchor the work is also considered essential to ensure maximum impact. On this basis, Somalia was recommended as a target country through the demand expressed by the Ministry of Energy and Water Resources and the context of a long-term strategic water sector planning process that the Ministry is responsible for with support from the international donor community.

For that reason, in August 2019, an agreement was signed between UNEP-DHI and GWP, for GWP to raise awareness and capacity in critical water-related issues as a basis for gaining political commitment and identifying actions to address the IWRM shortfalls highlighted in Somalia's SDG 6.5.1 baseline. Due to the complex nature of aligning the technical, political and logistical aspects in Somalia, two amendments were signed. Finally, two IWRM seminars were organised in October and November 2020. This report describes the outcomes of those seminars.

### **Overview of seminars**

It was originally expected that three seminars were to be organised, and they were initially planned for July 2019. However, due to the complex nature of water management in Somalia, which saw some changes in 2019 in high-level political figures with whom the arrangements for the seminars had been previously agreed, it was not possible to organise them that year.

Furthermore, it was expected that the United Nations Development Programme (UNDP) would provide a match contribution which would be the equivalent of the cost of one of the three seminars. However, due to administrative issues related to the carry over of 2019 funds to 2020, that possibility did not materialise. For that reason, it was decided to focus on implementing two high-impact seminars fully funded by the UNEP-DHI contribution. Due to the impact of COVID-19 and the subsequent health control measure, the two seminars were eventually organised in October and November 2020, with the agenda which can be found in annex 1.

The seminars were co-organised by the Ministry of Energy and Water Resources and the Somalia Water Partnership, on behalf of the SDG 6 IWRM Support Programme. Due attention was paid to ensuring that appropriate recognition was given to the three organisations, as can be seen from the standard PowerPoint template below, which was used in all presentations. The World Bank also contributed in kind, through the provision of an international water expert, Dr. Klas Sandström, who coordinated the seminar and contributed many of the presentations.



Figure 1 PowerPoint template for presentations during the seminars

In total, there were 42 participants in the seminars, from the national and sub-national governments, academia, the private sector and civil society. There were a number of youth participants and special attention was given to ensuring good participation of both men and women.

The seminars were held in a way that respected the recommendations of the local health authorities. It should be mentioned that they used a novel approach, through which PowerPoint presentations were prepared by international experts, but delivered by a local water expert, supported and prepared depending on the needs, which was perceived to be a very useful and interesting way of transmitting the information. The presentations were formulated in a thought-provoking way that shared international experiences, before opening up for participants to dialogue in smaller groups around the applicability or relevance of the experiences for Somalia's water management. Several of the local lecturers reported back that they found their PowerPoints to be eye-openers, and training local experts to train other participants was an effective means of capacity development.

The first seminar focused on global experiences, tropical hydrology and to "squeeze" more water out of the hydro-social cycle, IWRM building blocks, and "how to work as a professional water manager" in implementing IWRM principles (an experience shared from Kenya). The second seminar focused more on transboundary water issues and Somalia's water future, and featured a presentation by the Ministry of Energy and Water Resources of the draft new water strategy for Somalia, as well as a presentation by UNEP-DHI of the web-based Juba-Shabelle Transboundary Monitoring Observatory.

The closing of the second seminar was graced by the participation of H.E. Mrs. Shukri M Afrah, the state Minister of Energy and Water Resources (MoEWR), who distributed the completion certificate to participants. In a speech at the conclusion of the seminar, she thanked UNEP and GWP for organising the seminars; reiterated her commitment towards improving IWRM in Somalia; and stated her interest in continuing to work with GWP in Somalia to that end. “I am so proud to represent the Ministry and partake in this seminar to show the importance of water for us and the entire country” said the Minister. “These seminars are extremely important for the nation” she added.



Figure 2 The Somali Minister of Energy and Water Resources, Mrs. Shukri M. Afrah, in the closing of the seminar

### IWRM roadmap

In the SDG 6.5.1 self-evaluation in 2017, Somalia was the lowest scoring country in the world, with just 10%, showing very low implementation of IWRM. However, in the 2020 update, as a result of a multi-stakeholder organised separately by the SDG 6 IWRM Support Programme, that score had risen to 22%, a significant increase. It is worth mentioning that this result is according to the country submission, which is still pending officialization.

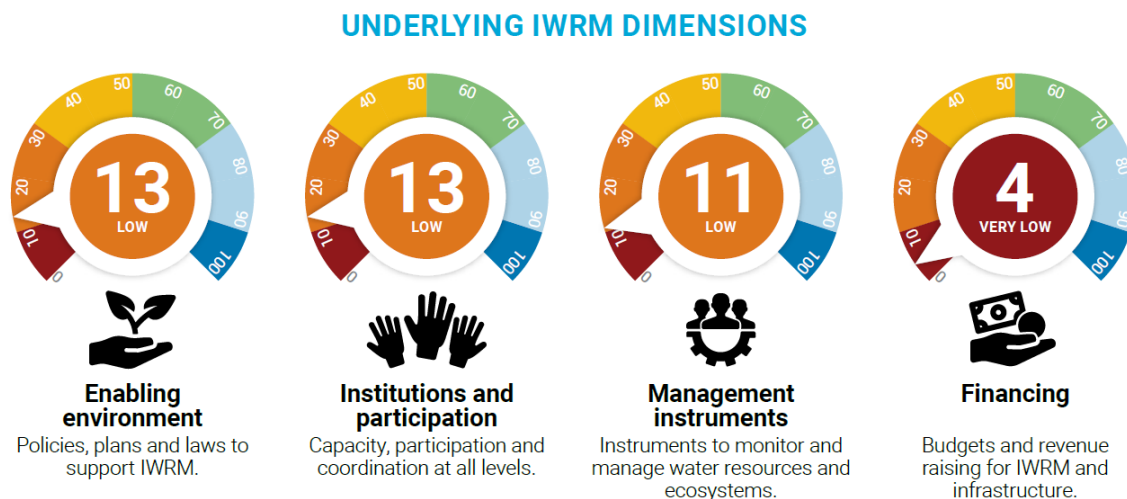


Figure 3 Underlying IWRM dimensions in Somalia's 2017 baseline for SDG 6.5.1

It is clear therefore that there are many directions in which IWRM could be improved in Somalia. Some suggestions that were made in the first seminar included:

- An independent water management body that spearheads the required efforts should be created;
- Laws on water management that are practical and implementable should be enacted;
- Educating the people and the leadership of the importance of the issue through well orchestrated media coverage on the issue of water management;
- Creating a bilateral agreement with Ethiopia on water sharing and management; and

- Creating effective food and agricultural policies that can contribute to a better water management system in the country.

On the other hand, participants at the multi-stakeholder consultation around SDG 6.5.1 in 2020 highlighted the following areas in which they felt that the country could focus its attentions to advance on IWRM in the coming years:

- Scale-up grants that come through different channels
- Establish a pool of funding for resources coming to the country through different channels
- Investments channelled through private sector to ensure sustainability while making sure the rules and regulations are in place
- Establish Public private partnership systems so that the government can channel funds through private sector
- By 2021, establish a National Water Sector Development Fund, the ministry of energy and water resources argue should be allocated from national budget- 5-10% of national budget.
- Systematized Tariffs, taxes from water suppliers/companies to boost revenue

It is clear that Somalia is a country exposed to climate extremes, as one of the 21 driest countries on earth, with an annual rainfall of only 250mm. Furthermore, according to the World Bank and FAO, “the climate in the Horn of Africa is projected to become even drier, warmer, erratic and more extreme”. Somalia belongs to a group of eight countries worldwide most at risk of climate-related instability and humanitarian crises in the coming years. Thus, it is clear that Somalia will need to adapt its water resources management to increase its water-related climate resilience. GWP is support Somalia, through the NDC Partnership, to raise the ambition of its Nationally Determined Contribution (NDC) to climate change, while also supporting a readiness proposal with the Green Climate Fund. It is recommended that Somalia follow this pathway, taking IWRM as an integrator for its green and sustainable development.

Given the large array of efforts underway in Somalia to support its sustainable development, water resources management, climate adaptation, green growth, and other similar topics, the need for building institutional capacity and the enabling environment that will allow such efforts to increase their impact is self-evident. A possible IWRM Action Plan could provide the opportunity for IWRM to be placed at the centre of these related efforts, all of which depend upon the availability of water in quality and quantity.

#### Feedback from participants

After both seminars, the 42 participants were asked to share their opinions on the materials, the format and focus of the presentations, and the feedback gathered was very positive. Given the variety of topics focused on, expertise among participants on some of the topics was also highly variable, so finding the balance between expert analysis and covering the basics was a fine balancing act, which was generally achieved. The feedback from the two seminars can be found in annexes 2 and 3 below.





*Figure 4 Family photo of all participants in the seminars*

### Communication

Efforts were made to promote the seminars, both within Somalia and internationally. The Somalia Water Partnership shared some photos and messages on its Twitter account (<https://twitter.com/GWPSomalia>), whereas GWP wrote an article on the first seminar for its monthly newsletter, GWP NewsFlow ([see here](#)). Finally, a 7-minute promotional video on the seminars was produced in Somali by a retired BBC journalist, and is [available here](#).

Annex 1: Programme of IWRM Seminars in Somalia. **Week 1.** Location: Jazeera hotel, Mogadishu. Facilitator: Prof Eng Abdulakdir Abiikar

Date / time	Sunday 18 October 2020	Monday 19 October 2020	Tuesday 20 October 2020	Wednesday 21 October 2020	Thursday 22 October 2020
Focus	<i>Day 1: Global &amp; regional trends, water conditions</i>	<i>Day 2: Tropical hydrology water flows, supply, use</i>	<i>Day 3: Water in Somalia: trends, conditions. Drivers.</i>	<i>Day 4: IWRM. Principles and applications.</i>	<i>Day 5: Water management</i>
08.00 – 10.00	<b>1:1: Workshop starts</b> Welcome, Introductions, and objectives. Online survey. • Prof Abdulakdir Abiikar	2:1 Tropical Hydrology Basics of hydrology and tropical conditions. Climate change. • Eng Shurie /Eng M Dirie	<b>3:1 Somali water account</b> Inflows and outflows of water in Somalia. How is it used? • Eng Aweis	<b>4:1 IWRM</b> The concept and its history and development. Water security and economics. • Wangai Ndirangu	<b>5.1 Supply / demand</b> To make water work requires deliberate management. Insights! • Khadar Hussein / Wangai Ndirangu
	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break
10.30 – 12.00	<b>1:2: The global outlook</b> Trends and changes shaping our world • Dr Klas Sandström / Prof Abdulakdir Abiikar	<b>2:2 WASH</b> Water use in WASH and food production. Virtual water. • Eng Shurie	<b>3:2 Who is doing what?</b> Roles in running the water sector. Women, men and many more... • Eng Aweis / Eng Shurie	<b>4:2 Building blocks IWRM</b> The basics of IWRM – building blocks of a water sector • Badra Yusuf	<b>5:2 Small group discussion</b> We review some difficult issues in water management. More than water! • Khadar Hussein / Wangai
	Lunch / Prayers	Lunch / Prayers	Lunch / Prayers	Lunch / Prayers	Lunch / Prayers
02.00 – 03.00	<b>1:3 Regional outlook</b> Horn of Africa – what is happening? Trends and linkages. • Eng M Dirie	<b>2:3 Agriculture</b> Water use in food production. Virtual water. • Eng Shurie	<b>3:3 Change in Somalia</b> Somalia is changing today. From where and to where? Good/bad change? • Prof Abdulakdir Abiikar	<b>4:3 Case: Namibia</b> Best in the world in water management? Namibia's success story. • Wangai Ndirangu	<b>5:3 Basin management</b> Basin managements builds on IWRM but has its own twist. Connects up & down • GWP / Khadar Hussein
	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break
03.15 – 04.15	<b>1:4 Rajasthan discussion</b> The Rajasthan water miracle. A very similar setting – what can be transferred? • Prof Abdulakdir Abiikar	<b>2:4 Managing the cycle</b> How we can best manage the hydrological and hydrosocial cycles? • Eng Shurie	<b>3:4 Food Security in Somalia</b> Food is critical for Somalia's future. From where is it coming and how is it paid for? • Prof Shirdon	<b>4:4 Working in IWRM</b> How to work with IWRM. Professional experience from Kenya. • Wangai Ndirangu	<b>5:4 First week closure</b> Assessing results and lessons learned. Agree on home assignment. Quick exam. • Prof Abdulakdir Abiikar

04.15 – 04.45	-		<b>3.5 SDG 6.5.1 Somalia</b> Brief review of the water STG targets and status. <ul style="list-style-type: none"> <li>• Ms Asli Duale</li> </ul>	-	-
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IWRM Seminars in Somalia. **Week 2.** Location: Jazeera hotel, Mogadishu. Facilitator: Prof Eng Abdulakdir Abiikar

Date / time	Sunday 15 November 2020	Monday 16 November 2020	Tuesday 17 November 2020	Wednesday 18 November 2020
Focus	<i>Transboundary w mgmt. Opportunities/limitations.</i>	<i>Transboundary continued. A Somali Water Vision</i>	<i>Building a water sector – components, linkages</i>	<i>Into the future; cooperation and coordination.</i>
08.00 – 10.00	<b>Welcome back</b> Reconnect. <b>6:1 Introduction: Shared waters</b> What transboundary water management is and how it has developed. . <ul style="list-style-type: none"> <li>• UNEP / Prof Abdulakdir Abiikar</li> </ul>	<b>7:1 Shabelle &amp; Juba Rivers</b> These rivers are critical to Somalia’s future – and shared. How can they best be developed and what does it require on behalf of Somalia? <ul style="list-style-type: none"> <li>• UNEP / Mohamed Faatih</li> </ul>	<b>8:1 A Somali water sector</b> The Somali water sector contains many functions and components, but also gaps and overlaps. We review and identify priorities to address. <ul style="list-style-type: none"> <li>• Abdulkadir Gure</li> </ul>	<b>9:1 Into the future</b> Water can act as catalyst for cooperation and promote growth and well-being. What is required by us? <ul style="list-style-type: none"> <li>• Mohamed Faatih</li> </ul>
	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break
10.30 – 12.00	<b>6:2 Shared development</b> As water cross borders, development has to take place on both sides, generating win-win and shared and traded benefits <ul style="list-style-type: none"> <li>• UNEP / Mohamed Faatih</li> </ul>	<b>7:2 Shared groundwaters</b> Groundwater is important in Somalia and Merti Aquifer, shared by Kenya and Somalia, brings an international perspective.	<b>8:2 Capacity development</b> To enhance the human capacity to manage water is a critical. We assess, review and identify priority actions. <ul style="list-style-type: none"> <li>• Badra Yusuf</li> </ul>	<b>9:2 Urban sanitation</b> A function-driven focus on sanitation. Dry sanitation vs sewer based. Cases from India. <ul style="list-style-type: none"> <li>• Abdirzak Mohamud Yusuf / Sandström</li> </ul>
	Lunch / Prayers	Lunch / Prayers	Lunch / Prayers	Lunch / Prayers
02.00 – 03.00	<b>6:3 UN Water Conventions</b> Two UN conventions provides a legal framework for working across borders and find shared solutions. These are presented.. <ul style="list-style-type: none"> <li>• UNEP / Mohamed Faatih</li> </ul>	<b>7.3 A Somali Water Vision</b> What should Somali water conditions look like in 2040? What is the goal for all our work? Review and discuss the current vision.	<b>8:3 Flood management</b> Floods are getting increasingly common – in both rural and urban areas. To manage this complex issue is a priority. <ul style="list-style-type: none"> <li>• Abdulkadir Gure</li> </ul>	<b>9.3 A new water strategy</b> The new National Water Resources Strategy is presented and discussed. <ul style="list-style-type: none"> <li>• Ahmed Mohammed Hassan</li> </ul>
	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break	Coffee / Tea break

03.15 – 04.15	<p><b>6.4 Discussion</b></p> <p>Data sharing is an excellent door opener for cooperation. The case of Zambezi River and its relevance to Juba/Shabelle.</p> <ul style="list-style-type: none"> <li>• UNEP / Mohamed Faatih</li> </ul>	<p><b>7.4 Back casting from 2040</b></p> <p>This is a technique to define a desired future and what to do today in order to reach it.</p> <ul style="list-style-type: none"> <li>• Badra Yusuf</li> </ul>	<p><b>8:4 Business-as-usual or change?</b></p> <p>Somalia is changing, how can we adapt? Change is often painful, but required. Values and norms.</p> <ul style="list-style-type: none"> <li>• Badra Yusuf</li> </ul>	<p><b>9:4 Second week closure</b></p> <p>The full seminar is reviewed and results assessed. Certificates awarded..</p> <ul style="list-style-type: none"> <li>• Prof Abdulakdir Abiikar</li> </ul>
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## Annex 2: Evaluation of the first seminar

1. Your overall comments, thoughts, and what can we do differently?

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Comments: According to Sulayman from the Ministry of Energy and Water Resources of Hirshabelle State, “The seminar was thought provoking and inspiring new thinking into the best practice of water management and it enriched his knowledge.” Amina from the Ministry for Advancement of Women said that if access to clean water is improved, the hardships experienced by women in Somalia will diminish and that is a vision that we want Water Officials to move into. Engineer Abdirashid said that this seminar and the training covered some ideas of Integrated Water Resources Management superficially and that was its intention. However, in the next Seminar, if it is possible, we want to go deeper into how to build a sand dam or something similar to the Johads of Rajasthan State of India. Harnessing surface water during the rainy seasons is very important, and we want to carry out the practical work on that, at least learning its theoretical background with the intention in mind the transfer of knowhow of that technology. Somalia needs badly run-off waters and catch them into a system of pipes quickly before it evaporates. If we can combine the technology of Namibia (Masters of Water) with the systems of Rajasthan that will be great. We also have some traditions in Somalia of catching rain water into “Baraagis”. Engineer Abdirashid confirmed that he is optimistic in the future of Somalia that that water management and usage will change if we continue to discuss aspects of integrated water resources management and that Somalia will be able to attain some good targets in the processes of upgrading Somalia’s IWRM.”

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2. Where the participants pleased with the first week? Did they find the topics interesting? Something we should change?

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The participants were very pleased with the First Seminar. This was confirmed by Ms. Sahra who was a participant from the NGO sectorsaid, “The training was very inspirational, energizing, bringing lots of ideas, with both substantial and in-depth knowledge at times, together with case studies, learning from experience of participants and being fully practice-oriented; Well-balanced composition of participants: people from the FGS, Federal Member States, relevant NGOs and Academia and a good gender balance which contributed to interesting and focused discussions and exchanges.” The level and nature of participation was simply exceptional, though there was some linguistic barriers during videos watching of concrete examples, excellent analysis and feedback. The time flew by. When asked about the quality of this workshop, Ms. Hinda retorted, “This was one of the best workshops (seminar + training) I have ever attended. The venue, materials & facilitation was excellent. I recommend this training to all water sector actors interested in seeing real progress in their countries.”

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3. Level of complexity? Too simple, right, too hard? Specific topics that were too much of something?

The level of complexity varied as per the participants’ backgrounds, the training they had and their educational background and their level of experience. However, most of the participants had the right level of education and experience to grasp the level

of complexity of the material of the seminar and the presentations. It wasn't too simple nor too hard, but right enough.

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4. The approach of having premade PPPs (by me mainly) presented by a lecturer from locally. Did it work? Was it too much influenced by my interests? Relevant in a Somali context? Should we have that next time too?

The approach of having premade PPPs and presented by a local lecturer was appropriate and that did not cause a concern on the relevancy of the topic in a Somali context. Of course it was affected by your interests (Klas Sandstrom), and participants do like having it next time. There is no problem about that.

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5. The balance between "new knowledge" (training) and "discussions" (seminar), with the latter targeting certain (by me) picked focus areas. Did it work? Or did the participants expect to "learn" more? New things?

The balance between new knowledge and discussions worked well. The focused areas were relevant to the needs of the participants. The water professionals expected to move deeper into the water disciplines such as the basics of hydrology, how the Tennessee Valley Authority answered to the needs of the US people post US crises period of the Great Depression. The TVA's response to the US people was comprehensive and was holistic in its approach to the water and other problems at that time. The participants like the training component and the case studies presented by Dr Klas Sandstrom. We also added that Somalia tried in vain the Jubba Valley Authority that later evolved into the Ministry of Jubba Valley Development during Siyad Barre's Regime of the 1980s. A series of dams were proposed on the Jubba River together with long irrigation channels and agricultural development plans. The Faanoole Dam was a small dam producing only 5 MW electricity and irrigating agricultural project areas. The Baardheere Dam did pass the design and feasibility stages, geological, geotechnical and environmental stages (environmental impact assessments). The projects of the Jubba Valley Authority failed due to financial constraints and poor planning while the American successfully implemented the TVA projects and made impressive responses to the crises of that time.

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6. Any topics or issues missing? Any topics or issues being covered too much?

The seminar and the training were in good balance, though I wanted to see some lectures on ground water. Surface water was presented adequately, and so was on themes on WASH while groundwater did not receive an equal treatment. In the future, groundwater should have some focus.

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7. You saw the different lecturers. Who did best...? Good to know for upcoming and similar programmes. What was Wangai like? Did he deliver well? Should he be used in future programmes? Be honest on these questions!

I am of the idea that the lecturers, whether the international and local ones, did fantastic jobs fulfilling their duties and responsibilities fairly well. Wangai delivered the two presentations outstandingly and so was Barbara with her video presentation. Wangai's Kenyan accent was strong and some of us did not understand what he was saying.

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8. The cartoons... did they bring some laughs and second-thoughts?  
Definitely the cartoons did provoke thoughts on the themes.
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9. These sessions about linked water issues (Global outlook, changing Somalia), i.e. not like Hydrology, WASH or IWRM, where they appreciated? There will be more in second seminar. Shall we keep?
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Global outlook and changing Somalia produced a change of outlook and we shall keep them.

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10. Many water professionals – like the three of you! – have been involved as lecturers. What has been the value for them to be engaged as lecturers? If any. Have they (you!) benefitted professionally from presenting the PPPs and lead discussions? An alternative is to engage international lecturers and lecture via zoom... Or?  
The case studies and the videos enriched the lecturers and thus caused them to benefit more than the participants. Using local lecturers will help more as they are the ones who are aware of the detailed status of water issues and problems. I think local knowledge is what makes these lectures more attractive to the participants. Using local lecturers is highly better than using international lecturers using as they are the ones who tailor out things in order to help participants grasp locally.
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### Annex 3: Evaluation of the two seminars

- a. This is a feedback from participants and own perspectives and thoughts about the seminars: The seminars on integrated water resources management held between 18 – 22 October and the others on transboundary waters held between 15 –18 November 2020 in Jazeera Palace Hotel on the Airport Road, Mogadishu, Somalia.
- b. This feedback will help us evaluate the effectiveness of the seminars and allow us to make improvements in future workshops, training or seminars. This is essential for future programmes.

1	Seminars meeting participants expectations	<p>A participant survey was distributed to seminar participants during the last meeting on the 18th November, 2020. A total of 42 participants responded to the survey, for a 100% response rate. The following report summarizes their responses.</p> <p>The expectations of the participants were diverse, but all agreed that they got what they expected to gain from the seminars. The feedbacks provided by the participants contained the following comments:</p> <ul style="list-style-type: none"> <li>• "Motivation to continue learning about the seminar topics on my own" (85%)</li> <li>• "Obtained additional background knowledge of water resources management, science and engineering. " (75%)</li> <li>• "A bank of resources for my own learning" (70%)</li> <li>• "A deeper insight into the realm of the water industry" (90%)</li> <li>• "It introduced me to new kinds of concepts, ideas and principles" (55%)</li> <li>• "It helped me to learn a new content area that I may teach in the water related courses at the University where I lecture" (15%)</li> <li>• "The seminar was more valuable than other professional development courses/workshops available to me locally" (60%)</li> </ul>
2	The seminar contents were helpful and relevant to the Somali water sector and the transboundary water resources (surface and groundwater)	<ul style="list-style-type: none"> <li>• Participants answered several questions about the seminar content. Most participants felt the amount of content offered was just right, and the majority of participants felt the format was effective.</li> <li>• Participants from the Federal Government and the Federal Member States obtained some directions: the importance of the continuous process of integrated water resources management and the need for Somalia to sign the water conventions and ratify them and initiate discussions with Ethiopia.</li> <li>• The seminar encourages us to increase collaboration and cooperation with Ethiopia so that both countries are on win-win situations in terms of utilizing water resources on both sides of the border – the transboundary water.</li> <li>• For the other participants they gained knowledge and experience in transboundary water issues such as:             <ul style="list-style-type: none"> <li>○ Transboundary water resources governance and management</li> <li>○ Transboundary watershed/catchment basin</li> <li>○ Transboundary water resources (groundwater in aquifers, catchment basins and surface water)</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>○ How transboundary water agreements are done</li> <li>○ <b>The concept of water stress</b>, managing critical water resources to promote peaceful cooperation and sustainable development and avoiding to deplete and degrade transboundary water supplies and keep or stay away from causing social unrest and conflicts</li> <li>○ Participants have learnt that there were many <b>water agreements</b> that were concluded while potential water conflicts were few in number.</li> <li>○ Transboundary waters: aquifers and river basins of Shabelle-Jubba should be managed and governed by a treaty between Ethiopia and Somalia</li> <li>○ <b>River Jubba-Shabelle Basin Portal</b>: This was the most difficult part of the seminar for it contained satellite data products used for different purposes. It was too technical and difficult to understand</li> <li>● Transboundary water issues: Challenges and opportunities Challenges: lack of data, different conceptual model, different scopes of authorities, changing boundaries, and reaching an agreement on transboundary water agreement is expensive.</li> </ul>
3	The level of the seminars was appropriate; the right ones? Too many / too few, too complex / too easy?	The seminars were designed in such a way that it catered something for the various participants and made them enthusiastic. Of course, few of the participants felt it was too complex when we were dealing with the remote sensing and the satellite data for Rivers Shabelle – Jubba Catchment Basin. On the other hand, the seminars were not too easy or complex to understand; they were just right for the audience. Most of the participants enjoyed the seminars and extended their horizons further. There were two surprising things about the seminars: The recycling of wastewater and using it for drinking purposes such as the Waste Water Plant in Namibia or the use of urine as fertilizers. Some of the participants strongly opposed to that even though the water complied to WHO standards and was as clean as rainwater before it lands to the ground.
4	The speakers had a good understanding of the topics	Yes, the speakers/presenters of the power point presentations were professionals and lecturers with good caliber and experience in water disciplines or water-related fields and had demonstrated a good grasp of what they were talking about.
5	Format: The power point presentations had a good mix design	The presentations had a mix of providing knowledge and information and letting the participants go into deep discussions and expression of their knowledge and experience. Many participants liked the discussion groupings and platforms provided to them.
6	The seminar was worth the time	The participants liked the seminars and wished to further their knowledge in future seminars. Being very eager to learn and get knowledge beyond what they currently know, the participants were energetic throughout the seminars.
7	Examinations:	During the introduction of both seminars, I told the participants that we will conduct tests. The reason behind this was to increase to boost their concentration, attention, focus and seriousness and of course test how much of the learning they have picked up during the presentations.

		<p>The examination proved that the participants had learnt additional knowledge and obtained directions for further learning. The participants from the Federal Government and the Federal Member States have acquired ways of doing their responsibilities in terms of Integrated Water Resources Management and dealing with the Transboundary Water Resources. They are oriented and have got directions.</p> <p>All the participants passed the exams though there were 5 who struggled due to linguistic barriers and probably to some other factors.</p>
8	What topics were covered and what not covered	All the intended courses and seminars were covered wholly. There were not left-overs.
9	The seminars be repeated for other participants in the water sector	These two series of seminars are important for people in the water sector (governments, professionals, private interest groups and companies, and the third sector (NGOs, international organizations, and local charities and associations). It is good to repeat to others who did not get these opportunities.
10	The most useful aspects of the seminars	There were many key principal ideas required to be known by the participants: the integrated water resources management and the transboundary water: from science, engineering and to establishing cooperation with neighboring countries: Ethiopia and Kenya.
11	Into the future: Changes needed to improve and enhance the seminars	Changes needed to improve include more in-depth presentations and practical on data from remote sensing, GIS and for monitoring flooding and deforestation.