



# DAFNE

A **D**ecision-**A**lytic **F**ramework to explore the  
water-energy-food **NE**xus in complex and transboundary  
water resources systems of fast growing developing countries

## **INTERMEDIATE DISSEMINATION AND KNOW-HOW TRANSFER REPORT**

Deliverable D7.2

August 2018



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**Author(s):** .....Caroline van Bers, Jasminko Novak, Kalina Drenska, Caroline Lumosi, Davison Saruchera, Jonathon Lautz, Marco Micotti, Christian Knieper

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**List of DAFNE Partners**

ACCESS	African Collaborative Center for Earth System Science
ATEC	ATEC-3D Limited
EIPCM	European Institute for Participatory Media
ETH	Swiss Federal Institute of Technology
IWMI	International Water Management Institute
ICRE8	International Center for Research on the Environment and the Economy
KU Leuven	Katholieke Universiteit Leuven
POLIMI	Politecnico di Milano
UEM	Eduardo Mondlane University
UNZA	University of Zambia
UO	Osnabrück University
UNIABDN	University of Aberdeen
WLRC	Water and Land Resource Centre

## 1. INTRODUCTION

This deliverable is a report on the scientific publications and dissemination actions performed – both at the international and EU level and the local case study level in Africa – during the first half of the project. It includes reporting analytics on the usage of the project website and the social media channels. It also describes necessary updates to the communication and dissemination strategy and planning. The reference document for D7.2 is D7.1 Communication and Dissemination Plan delivered by the project in February 2018.

### 1.1 RELEVANT TASKS

This deliverable report reflects the activities of DAFNE partners in the following tasks:

**Task 7.2 – Project website and social media dissemination**, led by EIPCM and involving UO, POLIMI and IWMI. In this task the project website has been established to provide all necessary information about the project (goals, partners, activities, deliverables, etc.), as well as easy access to the main results and dissemination materials for a broad audience (project newsletter, flyer, deliverables, news from the project, links to the geo-information portal and social media channels etc.). Project development and results have also been regularly disseminated through social media channels such as Twitter and LinkedIn. To this end, an editorial strategy for the Twitter channel has been implemented in a continuous manner in order to attract relevant audiences and followers. For the LinkedIn dissemination, a project profile page has been established and relevant LinkedIn discussion groups have been selected and used to disseminate project results and interim developments in the relevant professional communities.

**Task 7.3 – Open data geo-information portal for knowledge transfer**, led by POLIMI and involving EIPCM, ETHZ and UO. The main data-driven results created by the project (e.g. data-analysis, scenarios, model simulations) in WP2 and WP5 will be provided in the form of an open data geo-information portal relying on a spatial data infrastructure for the integration, organization and management of these data. This portal will provide visualization tools to publicly display on the web the most important data compiled and knowledge generated in the project (from WP2-5) in an easily accessible, explorative visual way, in the context of the two case studies. This will include, among others, observations of hydro-climatic and socio-demographic variables, their future projections in the considered scenarios and the results of the Decision Analytic Framework, i.e. designed pathways and their impact measured with indicators. The uploading of the data generated in WP2-5 to the portal database will be performed within these work packages. The public geo-information portal will also provide selected and simplified visual analytics tools from the Negotiation Simulation Lab (WP6) to facilitate the visualization of the effects of alternative actions and pathways in the two case studies. The geoportal will be profiled in and linked with the project website.

**Task 7.4 – Communication and dissemination at international level and EU consultation**, led by UO and involving all partners. At the international level communication and dissemination focuses on the scientific community, policy makers, practitioners, students and relevant interest groups and includes the following activities and publications:

- a print and e-version of a project flyer;
- publication of relevant approaches, methods and results in journals and grey literature;
- presentation of project results at scientific conferences and workshops;
- a newsletter describing project activities and ongoing results on a bi-annual basis;
- attendance and participation at corresponding professional, expert group and committee meetings and other events; and,
- exchange of information and experiences with related European projects.

**Task 7.5 – Communication and dissemination in local communities and at cross-African level**, led by IWMI and involving partners UNZA, WLRC, ACCESS and UO. This task focuses on communication at the local and regional level and is aimed at the various stakeholders and local

communities of the two case study regions (Zambezi and Omo-Turkana basins) and related audiences in other parts of Africa. This task is distinguished from task 7.4 in that the local characteristics of the case study regions and of Africa as a whole require different communication channels and formats than the European and international scientific context. This dissemination also relies on the local networks of African project partners to reach their stakeholders and local communities.

**Task 7.6 - Summer school and MOOC training course**, has not been active yet, as its planned start is in project month 25.

## 1.2 STRUCTURE OF THIS REPORT

Deliverable 7.2 is structured as follows. First communication activities at the international level are presented (section 2) followed by those that have taken place in the local communities across the case study basins and at a cross-African level, in particular by the African partners, UNZA and UEM for the Zambezi Basin, and WLRC and ACCESS for the Omo-Turkana Basins (section 3). These two sections focus on communication via websites, communication materials such as flyers, communication campaigns, newsletters, social media, press releases and the various channels of the project partners. This is followed by a description of the development status of the Open Data Geo-information Portal for Knowledge Transfer (section 4). Dissemination activities including networking, participation in conferences and workshops (including also all scientific and non-scientific events (co-)organised or participated in by partners), and collaboration with related projects are presented in section 5. Finally, in section 6 scientific publications of the partners are presented. Important to the report is a rough estimate of how many persons from which target audiences have been reached.

## 2. COMMUNICATION AND DISSEMINATION AT INTERNATIONAL LEVEL


This section on communication and dissemination at the international level focuses on the activities of the Europe-based DAFNE partners. The specific activities of the Africa-based partners are covered in section 3. This section includes the project website, newsletters, social channels, press and partners' channels and reports on the activities and results achieved in the 24 months since the start of the project.

### 2.1 WEBSITE

The DAFNE website (<https://dafne.ethz.ch/>) is online since January 2017 and has been constantly maintained and updated to communicate the project progress. It has been implemented using Wordpress and is organized in seven sections for easy navigation (see Figure 1). The website has been instrumental for multiple objectives, such as disseminating a "brand identity" of the DAFNE project, informing the main project objectives and research questions, sharing the project outcomes, involving and engaging the stakeholders, broadcasting and sharing news through social networks (see, for example, the tweet roll shown in the news section of the website on Figure 1).

The website provides a summary of the DAFNE project in terms of concept, objectives, technical architecture and case studies, a description of the consortium, the project results (i.e., deliverables, publications, software, and datasets), a list of the main events organized/attended as well as a collection of media and project presentations (see selected snapshots in Figures 1-3).

After an initial warm-up period, we have been monitoring access to the DAFNE project website in terms of the total number of sessions, visitors and page views. The analytics on the website usage are reported in Table 1. Figure 4 shows a map of the geographical distribution of visitors who are spread across all continents, reflecting world-wide interest in the DAFNE project.




[HOME](#)
[PROJECT](#)
[CASE STUDIES](#)
[CONSORTIUM](#)
[RESULTS](#)
[NEWS](#)
[CONTACT](#)

# NEWS

## Project news and events

23.03  
2018



### DAFNE newsletter | Issue 3

IN PROJECT NEWS

[Read More](#)

16.03  
2018



### The Nexus Project Cluster started by SIM4NEXUS, DAFNE and the United Nations University

IN PROJECT NEWS

"The Nexus Project Cluster" is an initiative that aims to enhance communication, dissemination, and the impact of research and initiatives on the Nexus, which links...

[Read More](#)

09.10  
2017





### DAFNE newsletter | Issue 2

IN PROJECT NEWS

[Read More](#)

19.09  
2017



### 1st NSL for Zambezi basin


IN PROJECT NEWS

[Read More](#)

## Social media news

Tweets by @DAFNE\_project


DAFNE Project Retweeted



#### VicInAqua


@VicInAqua

Register to our knowledge platform and get insights into innovative #water technologies! [vicinaqua.eu/get-involved/](#) with #horizon2020 #Africa #wastewater #membrane #aquaculture #renewableenergysystems #waterreuse #ras



[Embed](#)
[View on Twitter](#)

DAFNE Project



#### DAFNE Project

@DAFNE\_project

On the #WorldMosquitoDay we would like to bring to your attention an article written by an organization that is member of the @DAFNE\_project consortium. To reduce malaria, we need to rethink the way we design dams [telegraph.co.uk/news/2018/07/0...](#)

[Embed](#)
[View on Twitter](#)

Figure 1 – DAFNE website news section pages



## The case studies

Two transboundary pilot case studies in two rapidly growing African regions will be considered. These are the **Zambezi** and the **Omo River basins**. The Zambezi River is the longest east flowing river in Africa and flows from Zambia through DR Congo, Angola, Namibia, Botswana, Zimbabwe, Mozambique, Malawi, and Tanzania. Four large hydropower dams (Kariba, Cahora Bassa, Itzhi-Tezhi and Kafue Gorges) are operational since the 1970s, and have produced negative ecologic effects, which are now being seen. In addition, the demand for WEF resources is expected to grow in this region, putting more pressure on these resources and potentially impacting local people. The Omo River flows from Ethiopia to Kenya and is being heavily dammed for hydropower production, with potentially serious consequences for the environment and the local people who rely on the river for their livelihoods or highly positive implications for the livelihood of the people and the natural ecosystem there depending on where they are located in the basin. Both transboundary basins riparian countries are characterised by fast growth and by an increasing demand for energy and food, which can lead to significant impact on the socio-economic structure and on the environment.

Existing and planned infrastructures – dams and irrigated agriculture – contribute significantly to impacts on societal developments, on economy and on ecosystems. Despite these similarities, the two case studies differ in the way they manage the WEF resources. The Zambezi River basin represents a generally established context, where the major infrastructures have been in operation since decades and there have been a number of initiatives for introducing cooperative strategies at the river basin scale. On the contrary, large infrastructures are still under construction in the Omo River basin, thus increasing the political and institutional tensions as well as the need for finding negotiated agreements on sustainable strategies. In this respect, the Zambezi and the Omo Rivers can be considered exemplary case studies, and the know-how, capacities, and tools generated by DAFNE are expected to be transferable to other African countries through careful documentation and dissemination and will be useful in both well established and under development contexts.

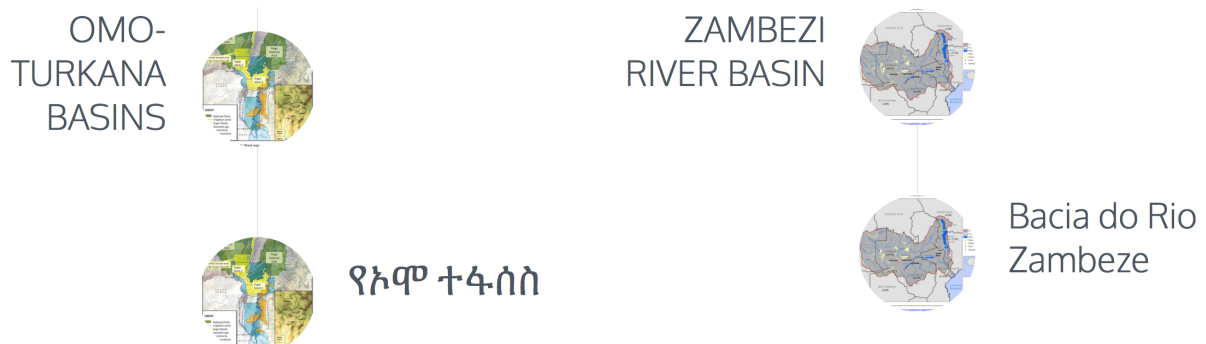
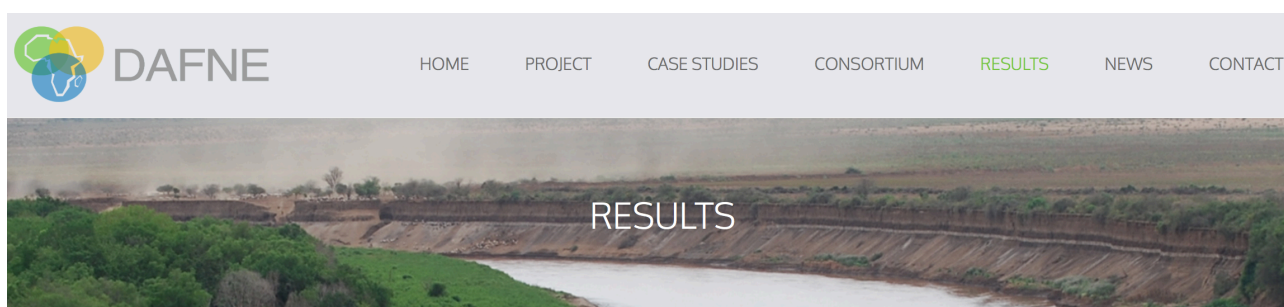


Figure 2 – DAFNE website case study page



## The project results:



### *PUBLICATIONS*

Read about the latest project results published in scientific journals, at conferences or workshops. [Publications >](#)



### *DELIVERABLES*

Find here the latest public project deliverables presenting the results in detail. [Deliverables >](#)



### *DATASETS & SOFTWARE*

Find here our datasets and software results. [Datasets and software >](#)



### *MEDIA*

Find here latest presentations, videos and additional info material about project results. [Media >](#)

Figure 3 – DAFNE website project results

Table 1 – Analytics on the DAFNE website

Statistics	M24 results
Number of sessions	4,580
Number of visitors	2,339
Number of page views	9,698

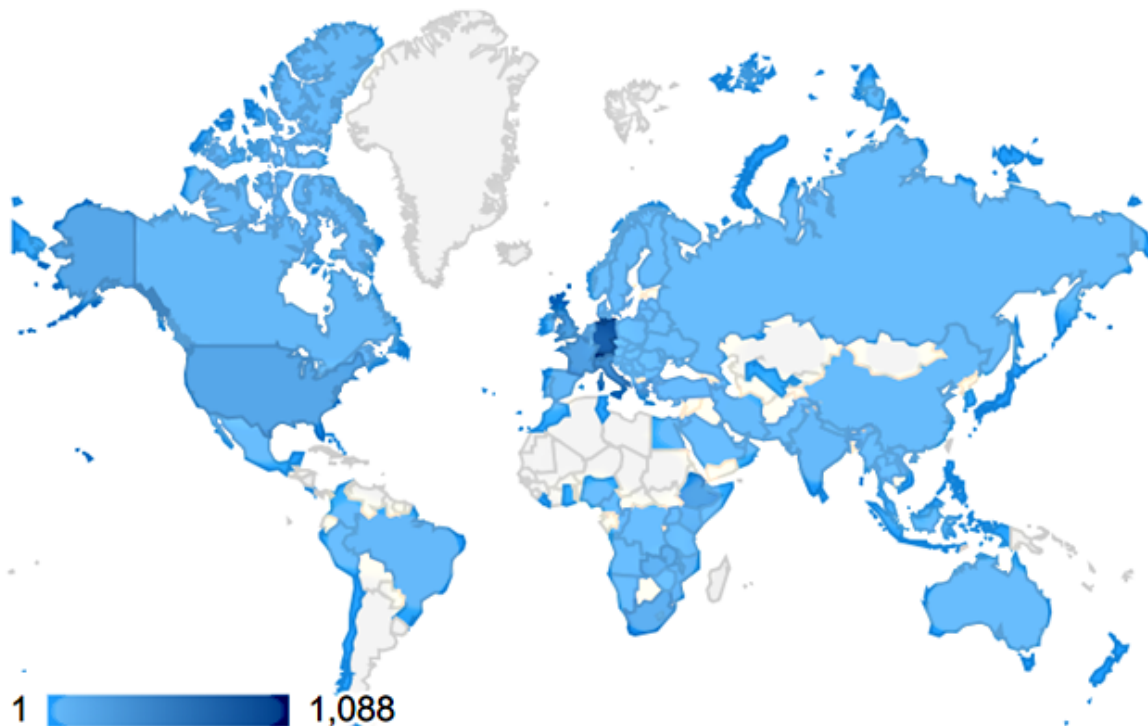


Figure 4 – Geographical distribution of the sessions on the DAFNE website

In addition to the seven pages mentioned above, DAFNE has a protected “Stakeholder area” or the so-called “Negotiation Simulation Lab” (NSL, see the snapshots of the homepage in Figure 5). The main goal of this area is to foster the discussions between DAFNE stakeholders and to provide them with important documents and outcomes from the project. It consists of two main sections, i.e. the “Zambezi Negotiation Simulation Lab” that is already functioning and the “Omo-Turkana Negotiation Simulation Lab” that will be developed in the following months (see Figure 6).

Both sections are password protected so that only project partners and stakeholders are able to access this area. With reference to the already active section, by entering the Zambezi NSL sections the stakeholders see a section with documents from the NSL meeting in Lusaka, Zambia, held between 11-12 September 2017 and additional explanation about how the partners can view and edit the uploaded documents relevant for them (see Figure 7). The uploaded documents so far are structured in six sections:

- Zambezi issues document
- Zambezi energy actions and indicators document
- Zambezi food actions and indicators document
- Zambezi ecosystems actions and indicators document
- Zambezi socio-economic actions and indicators document
- Zambezi Negotiation Simulation Lab Report

Each section consists of uploaded table or document that the stakeholders can easily view and comment both without logging into an extra online service, as well as through a personal login (see Figure 7). The NSL section of the website is also the place where the access to the NSL multi-perspective visual analysis tool and the geo-information portal will be integrated as they are made available for the stakeholders.



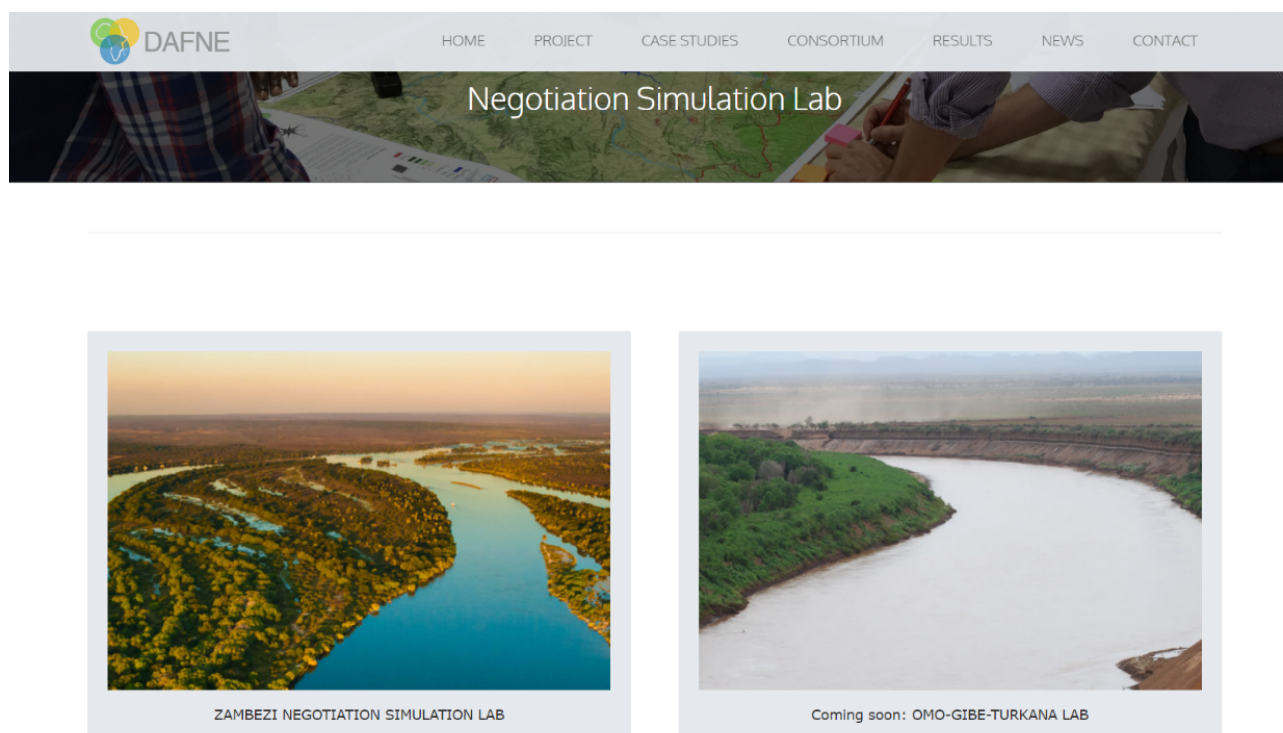


Figure 5 – DAFNE website NSL area

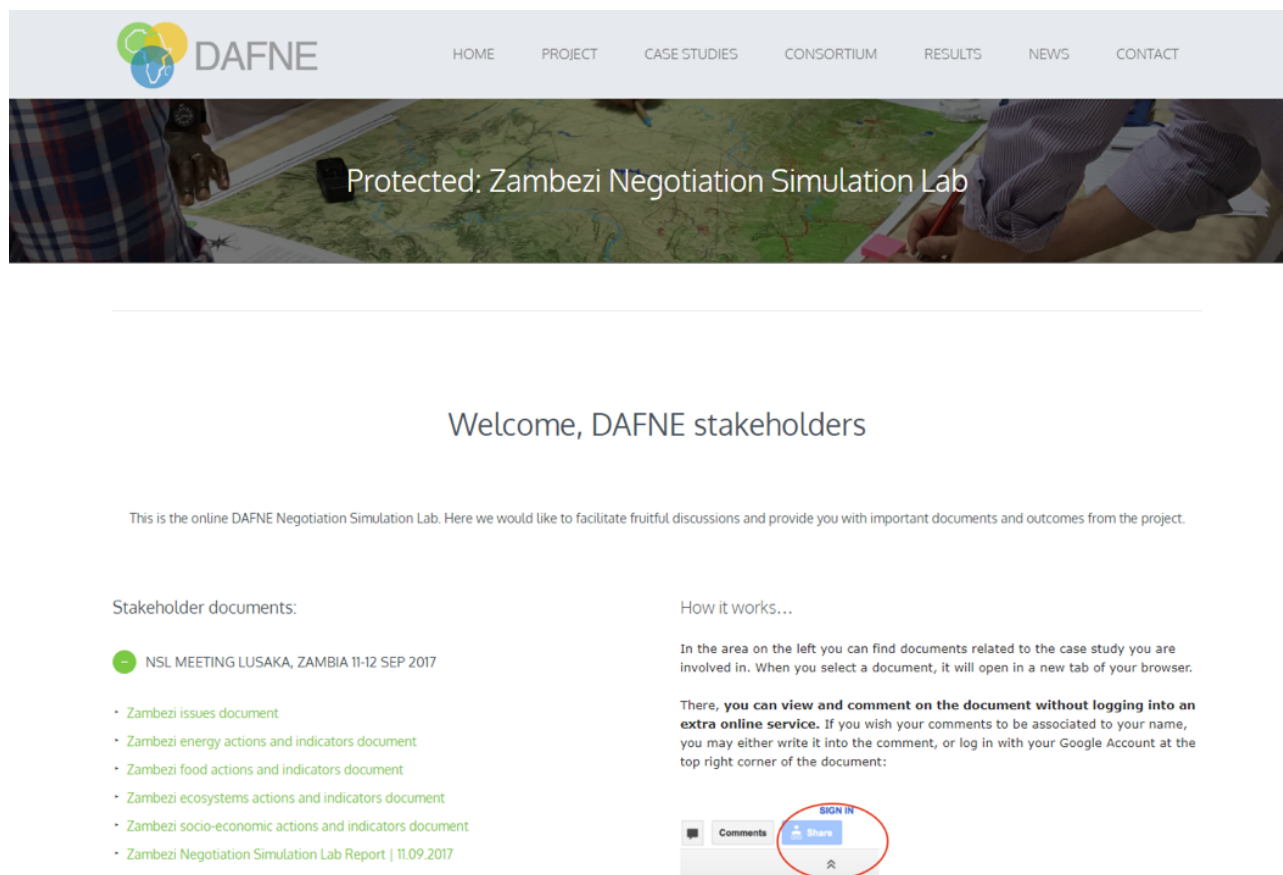
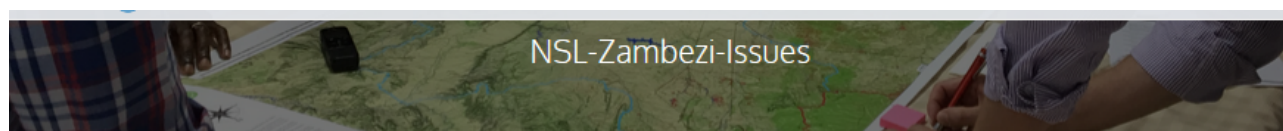


Figure 6 – DAFNE Zambezi Negotiation Simulation Lab. The red line highlights the “sign-in” for the Stakeholders.



Below you may find the list of issues identified at the first Negotiation Simulation Lab held in Lusaka, Zambia, on Sept. 11-12, 2017. To comment, **scroll to the last column** on the right labelled **"Your comments"** and **insert your comment** in the respective line.

Uncertain about terminology?  
Find some detailed instructions in  
[this accompanying document](#).

For general questions on how to add your comments to tables, please contact: Kalina Drenska [k.drenska@eipcm.org](mailto:k.drenska@eipcm.org)

For technical questions about specific issues, indicators and actions the following project members can be consulted (and if needed they can also make themselves available for a tel/skype call):

- **Energy and Water (Issues):** Marco Micotti – DEIB Polimi [marco.micotti@polimi.it](mailto:marco.micotti@polimi.it)
- **Food:** Jos Van Orshoven KU Leuven [jos.vanorshoven@kuleuven.be](mailto:jos.vanorshoven@kuleuven.be)
- **Ecosystems:** ETHZ – Fritz Kleinschroth [fritz.kleinschroth@usys.ethz.ch](mailto:fritz.kleinschroth@usys.ethz.ch)
- **Socio-economic:** ICRES Ebu Akinsete [ebu.akinsete@icres.eu](mailto:ebu.akinsete@icres.eu)

**When you are finished** reviewing this table, **return to the tab** containing the **list of all tables** which is still open in your browser and **select a new table** from the list.

Your comments are intended only for sharing among the DAFNE partners and stakeholders only and will be used to improve the information that has been gathered to date. It is therefore helpful to include your name with your comment in case there are questions or responses. The results of this process will be shared with you in late April / early May.

ID	SPATIAL REFERENCE	SECTOR	ISSUE	ACTION
is_1	Zambezi	Governance	Despite the countries have a cooperative attitude, existing protocols need to be enforced	
is_2	Zambezi	Governance	ZAMCOM should be given the mandate to act with a basin wide perspective as a centralized decision maker	
is_3	Zambezi	Governance	Relationship with national development plans in transboundary coordination. Task of Zamcom to develop strategic plan that encompasses national plans. Disclosure of plans by member states?	
is_4	Zambezi	Energy	Unlock the potential for use and exploit water	a E 1 – a E

Figure 7 – DAFNE Zambezi NSL issues

## 2.2 NEWSLETTERS

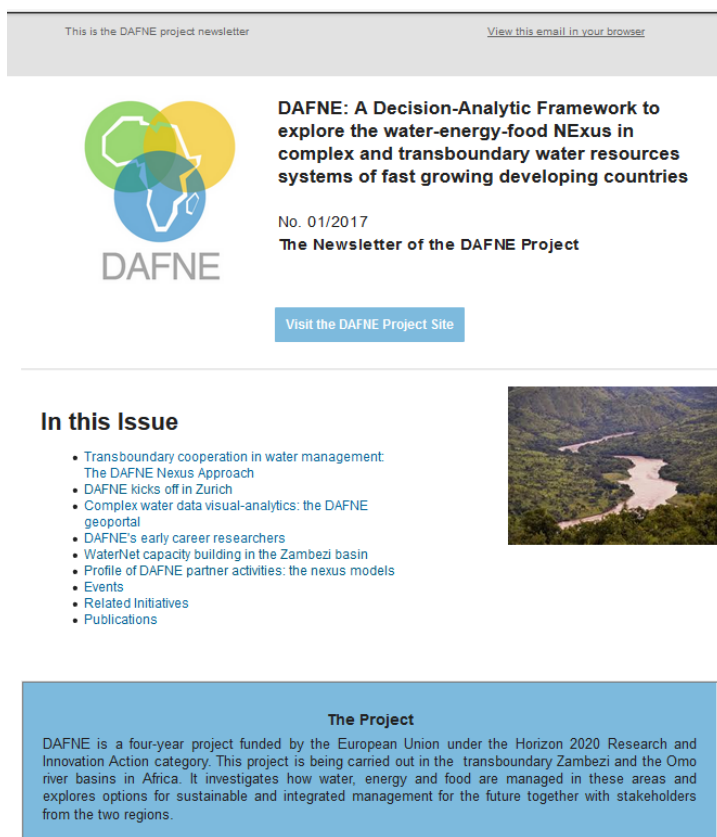
The DAFNE newsletter has been published biannually since June 2017. The electronic publication includes scientific and practice-oriented information and highlights and results from the project. Led by UOS these submissions for the newsletter have been prepared mainly by project partners but also project stakeholders. Three newsletters have been published:

- <http://dafne-project.eu/2017/06/13/dafne-newsletter-issue-1/>
- <http://dafne-project.eu/2017/10/09/dafne-newsletter-issue-2/>
- <http://dafne-project.eu/2018/03/23/dafne-newsletter-issue-3/>

The fourth newsletter, due to be released in early September 2018, is in production at this writing. The image below in Figure 8 is the cover page of the first online newsletter.

The newsletter is circulated by email to DAFNE partners, stakeholders and other interested individuals and organisations. The distribution list is international including above all individuals in Europe

and Africa. The newsletter has also been distributed through the DAFNE website and through the DAFNE social media channels (Twitter, LinkedIn) achieving a reach of more than 9,000 people (including combined tweet impressions and newsletter page views on DAFNE website). The newsletter has also been forwarded by a number of these recipients and sent to the LinkedIn professional groups where it has been promoted. This represents a combined membership of over 25,000 people that include a wide-range of professionals, scientists, practitioners and policy-makers in the DAFNE topical areas (see the LinkedIn section below).



## Welcome

### Transboundary cooperation in water management:

Figure 8 – Cover page of DAFNE Newsletter no. 1 (June 2017)

## 2.3 SOCIAL CHANNELS

In addition to the official project website, social media channels have been set up on Twitter, LinkedIn and Slideshare in accordance with the communication and dissemination strategy defined in the project's communication and dissemination strategy and plan, described in D7.1. They aim to facilitate the communication of the project-related activities to a wide external audience and promote the visibility of the project on the most widely used social media channels.

### 2.3.1 Twitter

A clearly defined Twitter strategy has been set up to maximize the message and communication of the DAFNE project and described in D7.1 Communication and dissemination plan. The DAFNE Twitter account (@DAFNE\_project) and the corresponding hashtag (#DAFNE\_H2020) have been set-up for easy, immediate communication of project results and activities, and for sharing news and information related to the broader area of the DAFNE project topics and the project mission. Project related tweets pertain to key milestones achieved, available public deliverables, upcoming

project events, contributions to external events and publications, and any other supporting dissemination material (see Figure 9).



Figure 9 – DAFNE Twitter account

Previous experience has proven that only publishing news on project activities is not a successful strategy for attracting followers on social channels. Instead, channel content needs to provide a value of its own for the users to join as followers. Following this strategy, the DAFNE Twitter account disseminates content and news coming from broader project-related topics such as, among others: water-energy-food nexus, integrated water resources management, participatory integrated planning, hydrological modelling, hydroinformatics, environmental sensing, water scarcity, environmental sustainability, multi-stakeholder dialogue for management of trans-boundary water resources etc. In this way, we are maintaining a communication channel that provides direct informational value to an audience relevant to the project's areas of impact and interest. The success of this strategy is reflected in the achieved results that not only meet but exceed the established (key performance indicators) KPI targets for this reporting period. At the end of M18, the DAFNE Twitter account has produced 1.384 tweets and retweets, gained 297 followers and generated thousands of monthly impressions (e.g. 5.902 for February 2018) meeting and surpassing the relevant targets defined in D7.1 (see Table 2). Moreover, by the second half of M24, the DAFNE Twitter account has produced 1.564 tweets and retweets, gained 572 followers and continuously achieved several thousand monthly impressions (e.g. 9,876 for June 2018).

Table 2 – KPI check for DAFNE Twitter account

TARGET	Target M18	Results M18	Results M24
Nr. of followers (cumulative)	100	297	572

The Twitter strategy also aims at identifying accounts with a broad reach in their existing social networks, in order to exploit network effects. The editorial choice of content published, as well as the establishment of references and direct interactions with existing Twitter multipliers in the area of energy management and related sustainability areas, reflect this objective. This strategy is being effectively implemented as it has acquired followers of the DAFNE Twitter account, which include



both individual influencers with a high number of followers, as well as institutional Twitter accounts of renowned institutions and of other projects or related initiatives in worldwide (e.g. EU Environment, Global Resilience Partnership, UNECE Water Convention). The project followers come from a wide range of energy related areas: businesses, NGOs, research institutes, global and local news publishers in the areas of energy, environment and sustainability, environmental/energy activists and opinion makers, scientific and educational resources.

In addition to including the DAFNE tweet stream, a Twitter aggregator (Twitter Energy News) collecting tweets from related European water projects is also provided on the DAFNE website. This webpage automatically aggregates and displays a real time stream of tweets corresponding to a set of predefined topical hashtags. This provides an easy overview of Twitter activity and news from energy related European projects as a resource available to the DAFNE target groups. The DAFNE communications team also uses this page to identify interesting tweets for further dissemination through the social channels of DAFNE.

### 2.3.2 LinkedIn and Slideshare

To communicate project activities and disseminate the results to a professionally oriented audience, the DAFNE LinkedIn profile has been established ([linkedin.com/in/dafne-project-5225a313a](https://www.linkedin.com/in/dafne-project-5225a313a)). The LinkedIn group was foreseen in D 7.1. Instead of starting an own group from scratch, we identified existing large and well-established LinkedIn groups to DAFNE related topics and decided to use these to spread project results in order to maximize our reach. It has been used to post news and relevant content directly on the project profile to reach other water-energy-food nexus groups, EU funded projects, professional networks and international environmental and water sustainability initiatives, all with the purpose to communicate and disseminate DAFNE results (162 posts by M24, on 17 August 2018).

Furthermore, the project results and related activities have been published in thematically-related LinkedIn groups such as “H2020 ENVIRONMENT Hydroinformatics, Climate Change, Water Resources Research” with 11,000+ members (<https://www.linkedin.com/groups/4427008>), “Water, Food and Energy Nexus/ System” with 1,400 members (<https://www.linkedin.com/groups/4727706>) or “Water Network” with 15,000+ members (<https://www.linkedin.com/groups/149066>). In this way, large existing water-energy-food nexus and water sustainability expert communities were effectively reached and the project was brought to their attention. By reaching 26,000+ members via already existing LinkedIn communities, we exceeded by far the KPI target set in D 7.1 for a DAFNE own LinkedIn group (see Table 3). As the result of overall posting activity on LinkedIn, the project’s LinkedIn profile has gained 112 followers by M18 (on 28 February 2017) and 698 followers by M24 (on 17 August 2018). This is additional proof of both the effectiveness and efficiency of the chosen strategy.

Table 3 - KPI check for DAFNE LinkedIn

<b>TARGET <sup>1</sup></b>	<b>Target M18</b>	<b>Results M18</b>	<b>Results M24</b>
Nr. of LinkedIn group members reached (via selected groups)	50	26,000+	26,000+
Nr. of LinkedIn followers	-	112	698

<sup>1</sup> Rather than establishing an own DAFNE LinkedIn group, large existing groups were used and the table reflects this decision. The number of LinkedIn followers was originally not planned as a KPI, but is included to better exemplify the achieved results.

Finally, the LinkedIn profile makes available and disseminates DAFNE presentations through SlideShare and vice versa (<https://www.slideshare.net/DAFNEproject>). See Figure 10 for a screenshot of the DAFNE profile on LinkedIn and Figure 11 for a screenshot of the DAFNE SlideShare.

DAFNE presentations were thus disseminated both through LinkedIn and the SlideShare channel connected to the LinkedIn platform (<https://www.slideshare.net/DAFNEproject>). See Table 4 for the KPI of the DAFNE SlideShare.

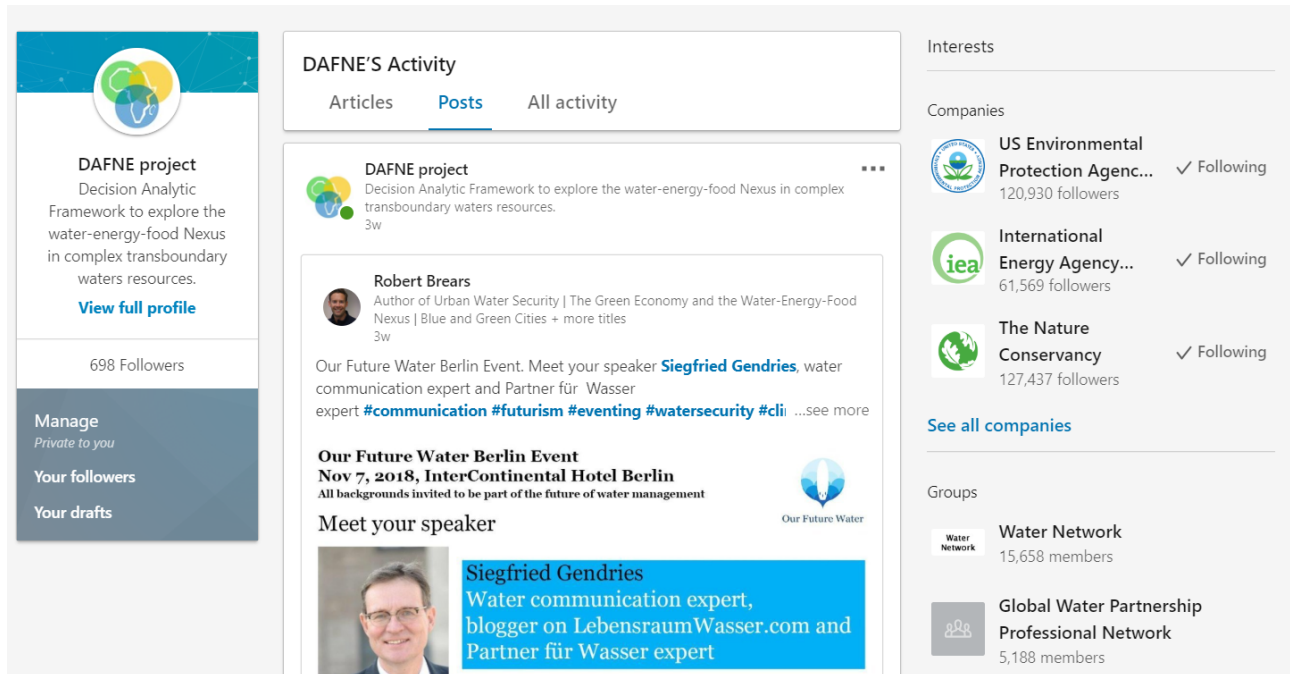


Figure 10 – DAFNE LinkedIn profile

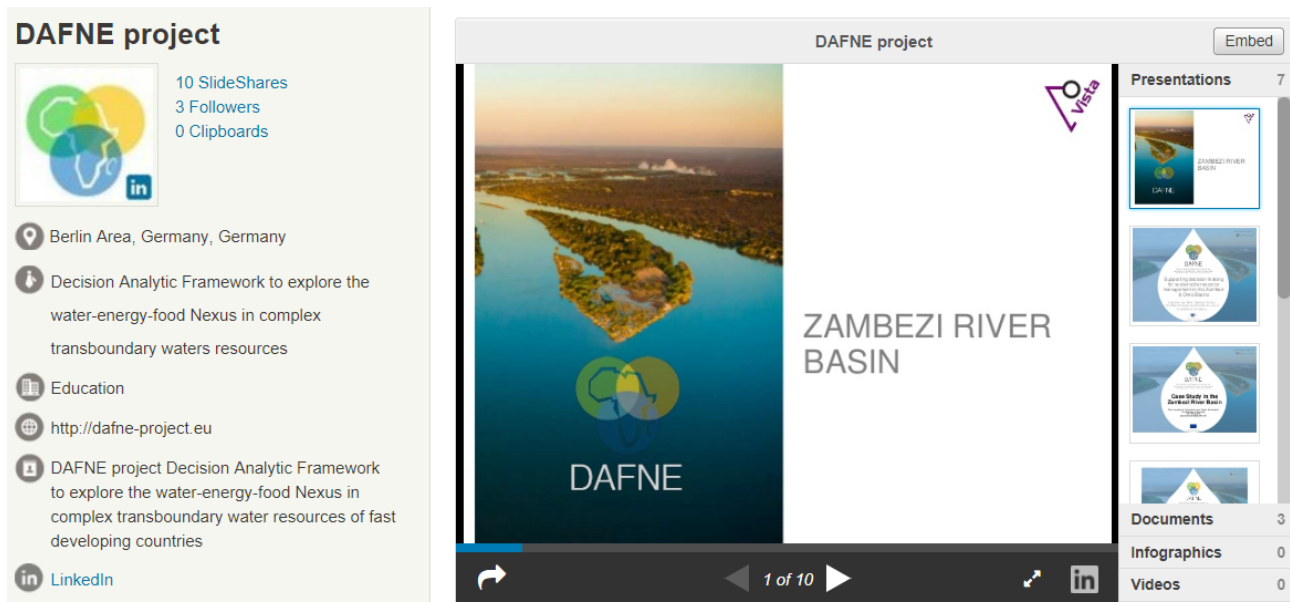


Figure 11 – DAFNE Slide Share account

Table 4 – KPI check for DAFNE Slideshare

TARGET	Target M18	Results M18	Results M24
Nr. of presentations (cumulative)	5	6	10

## 2.4 PRESS RELEASES

Communication and dissemination at the international level was successfully pursued through seven press releases related to the launch of the project and to events such as stakeholder workshops and the negotiation simulation lab meetings. The releases were distributed through project communication channels as well as the channels of the individual partner organisations.

## 2.5 PARTNERS' CHANNELS

DAFNE partners have a number of formal and informal linkages to complementary projects and other channels for information sharing such as governmental platforms and scientific committees which are used for communication and exchange on project activities and outcomes. Examples of these channels for the European partners are listed in Table 5 below. Examples for the African partners are listed in section 3. In addition to these activities, there were also the usual channels through participation in conferences and workshops. The events that the Africa-based DAFNE partners participated in are listed in section 5 of this report.

Table 5 – Formal and Informal channels of European partners

Pathway	Examples
<b>Informal liaisons and information sharing</b>	<p><b>POLIMI</b></p> <ul style="list-style-type: none"> <li>• collaborates with the University of Wisconsin Madison (Prof. Paul Block) on studying ENSO teleconnection on African rivers, with an emphasis on Ethiopia, with the purpose of building long term precipitation predictions.</li> <li>• collaborates with the University of Wisconsin Madison (Prof. Paul Block) and University of Oxford (Dr. Kevin Wheeler) on the filling of the Grand Renaissance Dam in Ethiopia</li> <li>• collaborates with the Tufts University (Dr. Jonathan Lamontagne) on the simulation of perturbed Shared Socioeconomic Pathways via Global Change Assessment Model (GCAM) for projecting irrigation water demands</li> </ul> <p><b>KU Leuven</b></p> <ul style="list-style-type: none"> <li>• Jimma University, Ethiopia, Jimma Institute of Technology, WEF-nexus and land use</li> <li>• Universidad de Cuenca, Ecuador, Programa para el Manejo del Agua y del Suelo (PROMAS), Water and land resources management</li> </ul> <p><b>AC-ETHZ</b></p> <ul style="list-style-type: none"> <li>• interacts with the hydrologists at the University of Trento specifically on resilience scales for water quality parameters.</li> <li>• interacts with the scientific community of the Initial Training Network “C-Cascades” on Carbon Cascades from Land to Ocean hosted by the Free University of Brussels, Belgium. We closely cooperate with Kongsberg Maritime Contros GmbH (Kiel, Germany) on the topic of in-situ sensing for recording water quality parameters along in land-ocean continuum.</li> </ul>

(Table 5 continued)

Pathway	Examples
	<p><b>EIPCM</b></p> <ul style="list-style-type: none"> <li>• communicates and disseminates project results and activities through its institutional channels (EIPCM website, Twitter and LinkedIn)</li> <li>• leverages on its wide networks of partners from current and previous projects to communication &amp; disseminate project results, such as the EIP Water, networkH2O – Network for Water in European Regions and Cities, Public Administration Division of the Fundació CTM Centre Tecnologic, the ECSA – European Citizen Science Association of which EIPCM is a member, the Climate Alliance, or the NABU - Nature And Biodiversity Conservation Union that reaches more than 600,000 members through its channels and a wide-range of professionals and policy makers.</li> </ul> <p><b>UNIBDN</b></p> <ul style="list-style-type: none"> <li>• International Water Resources Association</li> </ul> <p><b>ICRE8</b></p> <p>Collaborates with:</p> <ul style="list-style-type: none"> <li>• Department of Economics, Universität Rostock (Prof. Dr. Michael Rauscher) , on economic modelling</li> <li>• Institute for the Management of Information Systems</li> <li>• Athena: Research and Innovation Centre in Information, Communication and Knowledge Technologies</li> <li>• Grantham Research Institute on Climate Change and the Environment, LSEPS</li> <li>• Fondazione Eni Enrico Mattei (FEEM), Venice and Milan, Italy;</li> <li>• Energy, Environment and Water Research Centre, The Cyprus Institute, Cyprus</li> </ul>
<b>Other channels</b>	<p><b>POLIMI</b></p> <ul style="list-style-type: none"> <li>• members of the ASCE-EWRI scientific committee on Water, Energy and Nood Nexus, American Society of Civil Engineering - Environmental and Water Research Institute</li> </ul> <p><b>The Chair of AC-ETHZ</b></p> <ul style="list-style-type: none"> <li>• acts as the deputy head of the science advisory group of IGB, the Leibnitz Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany,</li> <li>• participated in missions of the Swiss Foreign Ministry and UNESCO on water co-operation in Central Asia, hosted by Kazakhstan,</li> <li>• will participate at the World Economic Forum in Davos, Switzerland in January 2019 to promote water quality issues of inland waters.</li> </ul> <p><b>ICRE8</b></p> <ul style="list-style-type: none"> <li>• Part of the Nexus Project Cluster – SDSN (Greece/ Global)</li> <li>• Climate KIC (Greece/ EU)</li> <li>• Member of the European Commission PRIMA Expert Group (with focus on WEF issues)</li> <li>• Member of the International Water Resource Economics Consortium</li> <li>• Member of the Water Network</li> </ul>



### 3. COMMUNICATION AND DISSEMINATION IN LOCAL COMMUNITIES AND AT CROSS-AFRICAN LEVEL

#### 3.1 LOCALIZED WEBPAGES FOR THE CASE STUDIES

IWMI developed a concept for the localized web pages for the two case studies (Box 1) as part of the DAFNE website, in April 2017. The localized web pages for the case studies aim to serve as a key platform to raise project awareness among stakeholders in the Zambezi and Omo-Turkana basins.

The three basin case study web pages were translated to:

- Amharic for the Omo case study (Figure 12), which is available at [https://dafne.ethz.ch/profile/omo\\_amharic/](https://dafne.ethz.ch/profile/omo_amharic/)
- A Portuguese translation of the Zambezi case study (Figure 13), which is available at: [https://dafne.ethz.ch/profile/zambezi\\_portugues/](https://dafne.ethz.ch/profile/zambezi_portugues/)

Box 1 – Concept for the localized web pages of the case studies

The DAFNE case study website will serve as a key platform to raise awareness of the project in East and southern Africa and keep stakeholders involved and abreast of latest project events, developments and outputs. The webpages play an important role in orienting users on the project, and updating them on key events and milestones and progress in the project. As such, the website contains the following pages:

- Basic description of each basin
- Project aim and description
- A list of stakeholders will be posted on the website with links as appropriate. Stakeholder list will be updated as more stakeholders come online.
- Publications: Dissemination of major results as captured in key reports. Titles and overviews can be translated into Portuguese and Amharic.

The preparation of a stakeholder list is largely a one-off activity, with as-needed updates. Publications can be added to the website shortly after their completion.

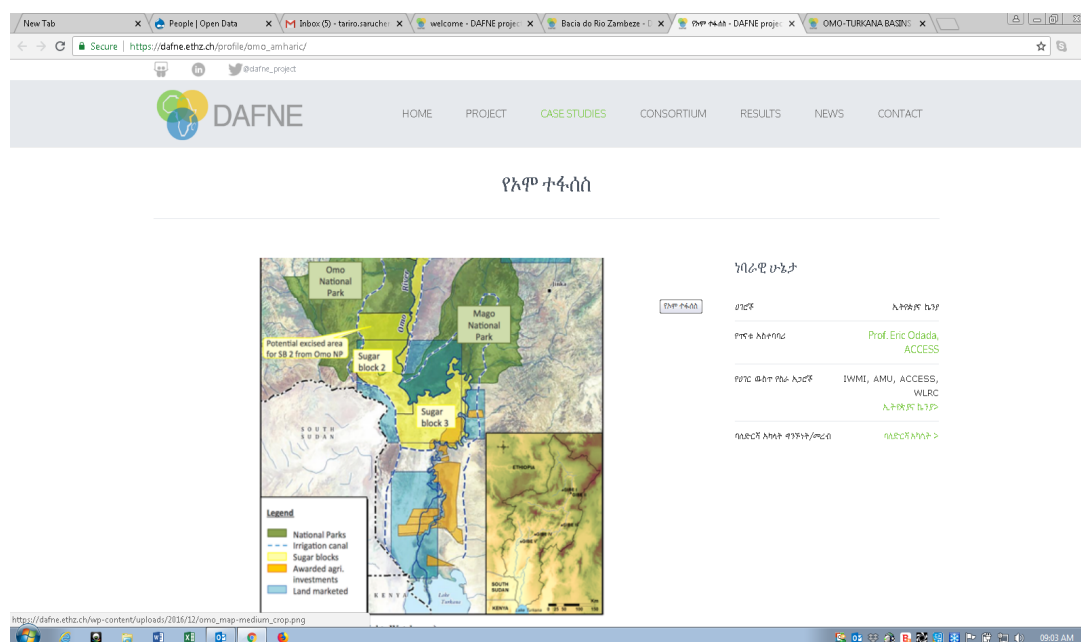


Figure 12 – DAFNE Web page in Amharic



Figure 13 – DAFNE Web page in Portuguese

### 3.2 NEWSLETTERS

A comprehensive list of key contacts who will receive the DAFNE newsletter (see section 2.2) in both basins was developed. In the Zambezi Basin, 80 contacts were identified - 42 from various government departments in the eight riparian countries, 30 from regional organisations and international cooperating partners/donors, and six from the industrial water use sectors. Some key stake-holders here include the African Development Bank (AfDB), African Ministers' Council on Water (AMCOW), the Food and agricultural Organisation (FAO) and the Southern Africa Development Community (SADC). In the Omo Basin, 40 people were identified - 15 from departments of the governments of the two countries, 10 from various interest groups and four from industrial water users. Key stakeholders here include the United Nations environmental Programme (UNEP) and the United States Agency for International Development (USAID). We continually strive to expand the list of stakeholders, but currently the newsletter reaches a total of 120 people in the three basins. To date, three newsletters have been distributed to these identified contacts on these dates:

- <http://dafne-project.eu/2017/06/13/dafne-newsletter-issue-1/>
- <http://dafne-project.eu/2017/10/09/dafne-newsletter-issue-2/>
- <http://dafne-project.eu/2018/03/23/dafne-newsletter-issue-3/>

### 3.3 LOCAL CHANNELS

A local stakeholder workshop was held in the Luia sub-basin, one of the nexus hotspots identified in the DAFNE project (see Figure 14 below). The workshop was held at Park Inn Radisson Hotel in the city of Tete, Mozambique, on 30 November 2017. A participant list is contained in Annex 4. The annual local stakeholder workshops are focused on communicating DAFNE project activities. This particular workshop, being the first in the Luia sub-basin of the Zambezi, also aimed at identifying key communications channels available to the local stakeholders, and strengthen their communications capacity.

Invitations were sent to potential participants from the zone/district levels, including farmer organisations, local community representatives, energy companies and key civil society organizations.

Participants were identified on the basis of their ability and disposition to act as information intermediaries, with concrete possibilities for sharing project information widely in their communities or spheres of work. In particular, the workshop sought to:

- Communicate project aims
- Facilitate stakeholder networking
- Establish communication channels
- Learn about stakeholder nexus challenges
- Confirm communication languages

The workshop was attended by 14 delegates. These delegates came from water, energy, and agriculture sectors as well as consulting, planning institutions and academia.

The workshop discussions identified notable nexus issues in the basin, and some possible solutions to the challenges (see workshop report available from <https://polybox.ethz.ch/index.php/f/1078329091>). The delegates made insightful contributions on how DAFNE can maximise their engagement going forward. In reference to communications, participants pointed out an email group is better than social media as it is more formal and can be easily shared with senior members of staff within organisations. The event organisers subsequently followed up on this recommendation.



Figure 14 – Tete (Mozambique) local stakeholders workshop (Photo: D. Saruchera)

### 3.4 PRESS RELEASES AT LOCAL AND CROSS-AFRICAN LEVEL

Two press releases on the first DAFNE Stakeholder meetings for the Zambezi and Omo-Turkana Basin were released in Feb. 2017 and Feb. 2018 respectively. These were distributed widely through the communications channels of the partner organisations in particular those of the African partners. Six news articles were also released including a news item/statement published on the IMWI website in 2017, which highlighted the urgency of the nexus approach in equitable and sustainable development in the region, and described the approach and objectives of DAFNE, and then briefly discussed the expected outcomes from the project. The online story can be accessed via the following link: <http://www.iwmi.cgiar.org/2017/12/water-energy-food-nexus-solutions-for-southern-africa/>

### 3.5 AFRICAN PARTNER CHANNELS

Dissemination through African partner channels was pursued through at least two pathways: informal liaisons and formal channels including participation in expert groups, platforms and scientific committees. Several examples of dissemination are presented in Table 6. Location of African partners and IWMI in proximity to other activities in the two basins enabled natural steps toward dissemination, by building on ongoing relationships, networks, and activities. Linkages with related/complementary projects is presented in section 5 (for all partners).

In addition to these activities, there were also the usual channels through participation in conferences and workshops. The events that the Africa-based DAFNE partners participated in are listed in section 5 of this report.

Table 6 – African Partner Channels

Pathway	Examples
<b>Informal liaisons and information sharing</b>	<p><b>UNZA</b></p> <ul style="list-style-type: none"> <li>World Wide Fund for Nature, Topic of Mutual Interest: Fresh Water Ecology, E-Flows</li> <li>Water Sector Advisory Groups setup by the Ministry of Water Resources Development, Sanitation and Environmental Protection</li> </ul> <p><b>WLRC</b></p> <ul style="list-style-type: none"> <li>Sustainable Land Management Project of MoANR</li> </ul> <p><b>IWMI</b></p> <ul style="list-style-type: none"> <li>IUCN's BRIDGE Program, topic of mutual interest: Water Management in the Lower Zambezi</li> </ul>
<b>Other channels of communication</b>	<p><b>UNZA</b></p> <ul style="list-style-type: none"> <li>Zambia Water Forum (Zambia)</li> <li>WaterNet: SADC (Zimbabwe, Tanzania)</li> <li>University of Zambia Postgraduate Seminar by the Directorate of Research and Graduate Studies</li> </ul> <p><b>WLRC</b></p> <ul style="list-style-type: none"> <li>International Resource Panel high-level scientific forum in United Nations Environment Program (UNEP)</li> <li>Global Water Partnership (GWP);</li> <li>Landscape, People, Food and Nature (LPFN) Initiative;</li> <li>Global Land Program and the Food and Land Use Coalition and Agricultural and Rural Development Partners Liaison Council (ARDPLAC)</li> </ul> <p><b>IWMI</b></p> <ul style="list-style-type: none"> <li>SADC's Groundwater Management Institute (GMI)</li> </ul>

## 4. OPEN DATA GEO-INFORMATION PORTAL FOR KNOWLEDGE TRANSFER

According to plan, the DAFNE Geoportal Prototype (DGP), led by project partner POLIMI, is now available for testing to all partners involved in the project via the password protected site <http://xake.elet.polimi.it:8081/drupal/dafne>.

## 4.1 PROTOTYPE FUNCTIONALITIES

The landing page of the DGP (Figure 15) is organised in four main sections, which have been already described in the D6.1 report and are available for partners use. Their content includes the following sections:

- *WEF Nexus map*: an interactive map to access spatial data of the system, inspecting components of the model (Figure 16).
- *Issues and Indicators*: browse issues and indicators of the Nexus with a tree chart (Figure 17);
- *Action and Pathways*: Explore actions and pathways considered in the project (Figure 18);
- *Results*: Interactive tools to analyse time series and indicators generated from DAFNE Project (Figure 19).

Feedbacks and comments on these functionalities will be collected from partners in order to improve these functionalities.

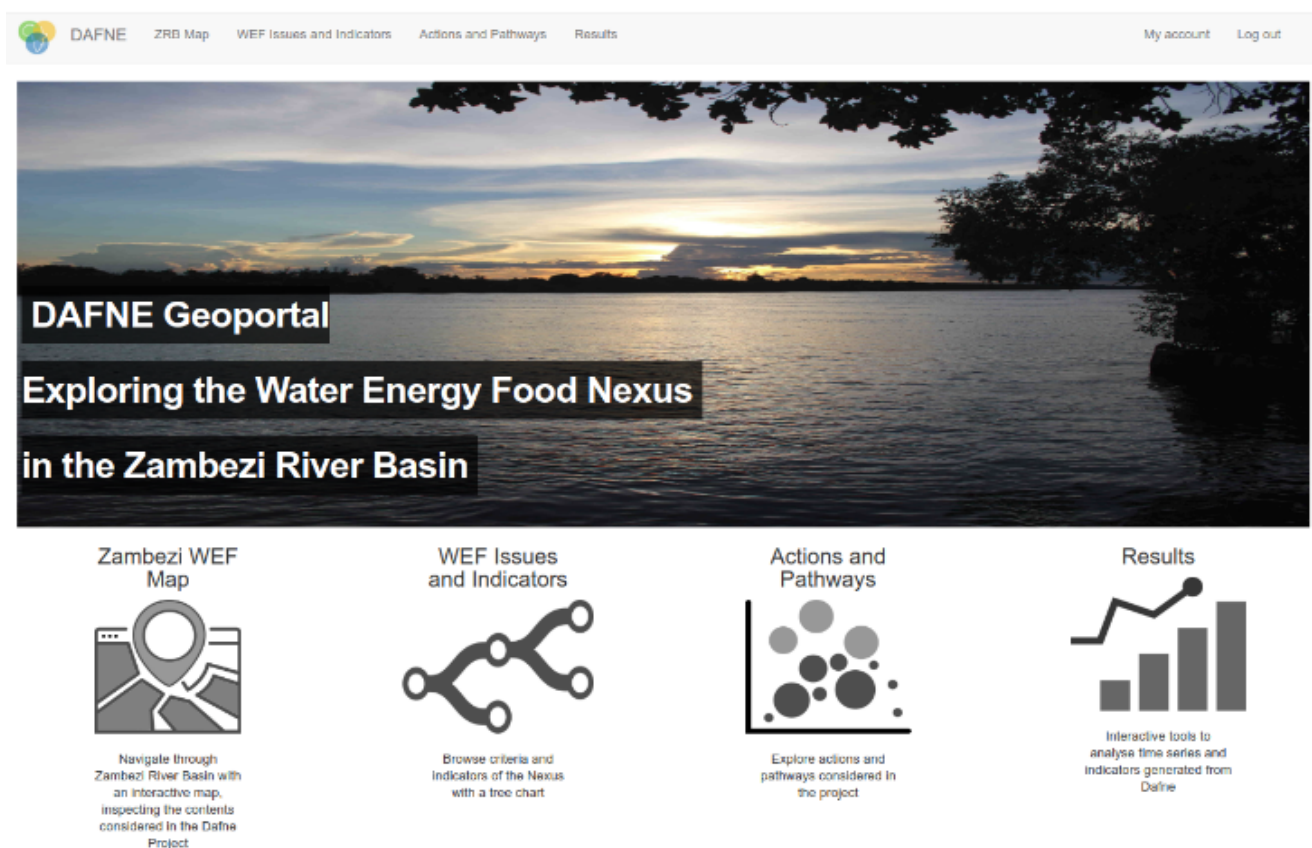


Figure 15 – DGP Landing Page for the Zambezi case study



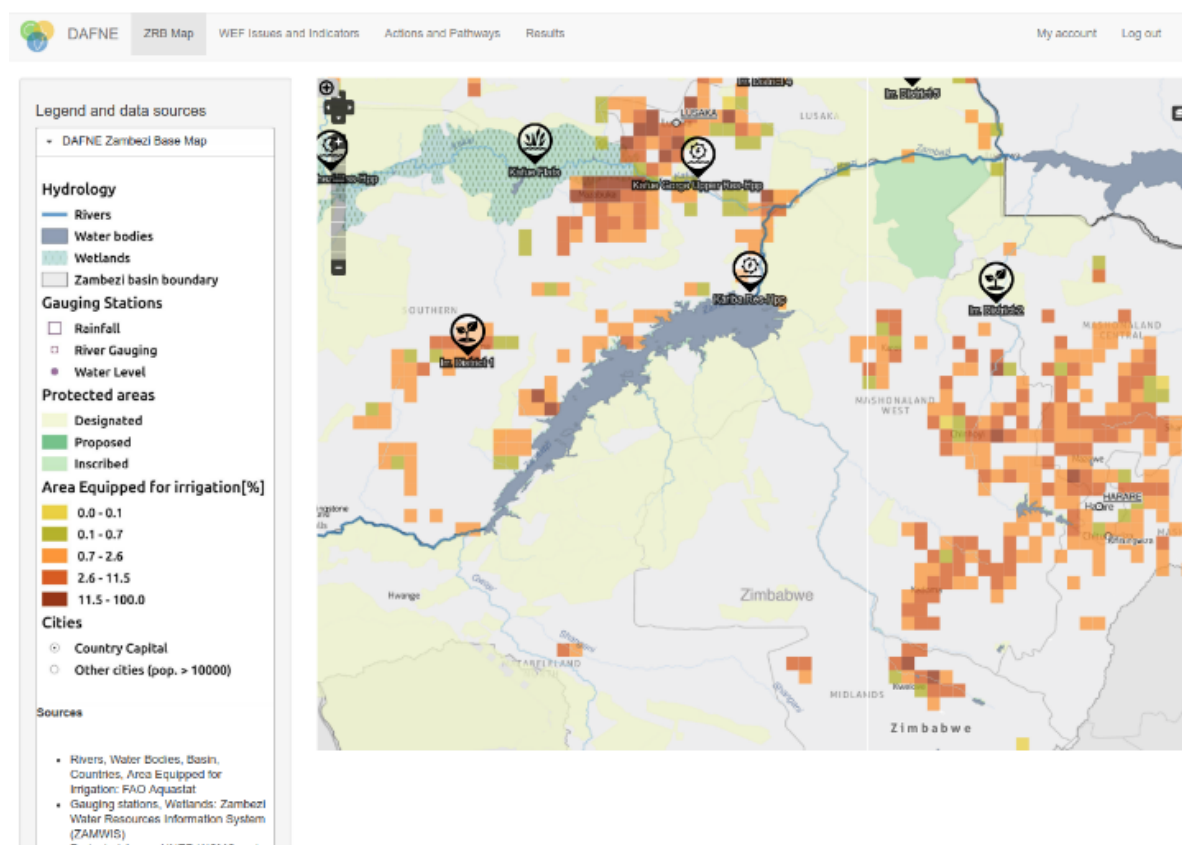
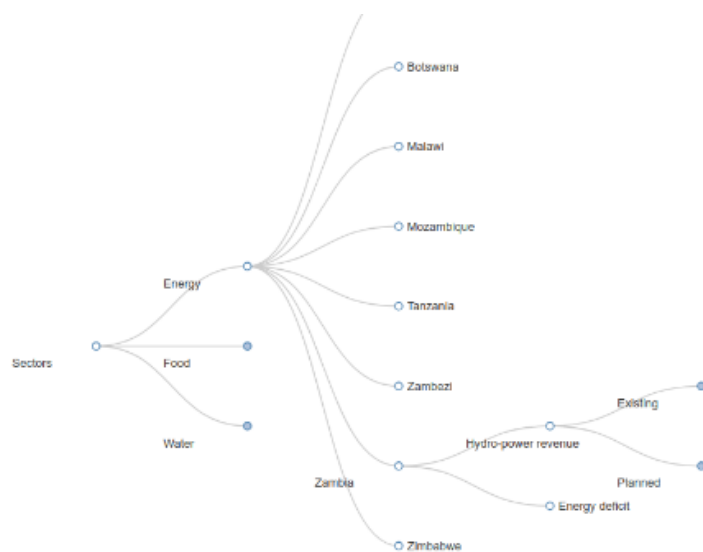


Figure 16 – WEF map



## Indicators list

Title	Short description	Description	Formula
I_E_1	Yearly average Energy production from hydropower	<p>The Indicator measures yearly average performance in term of energy production from all the plants in the Zambezi River Basin. Given the formulation above, the variables are the following:</p> <ul style="list-style-type: none"> <li><math>N</math> is the number of year in the time horizon</li> <li><math>t</math> is the time-step, being <math>H</math> is the time horizon expressed as number of steps</li> <li><math>p</math> is the <math>i</math>-th power plant, being <math>Np</math> the number of power plant</li> <li><math>E_t^p</math> is the energy production at time-step <math>t</math> for the <math>p</math> power plant, computed as follows:</li> </ul>	$\frac{1}{N} \sum_{t=1}^H \sum_{p=1}^{Np} E_t^p$

Figure 17 – Issues and Indicators

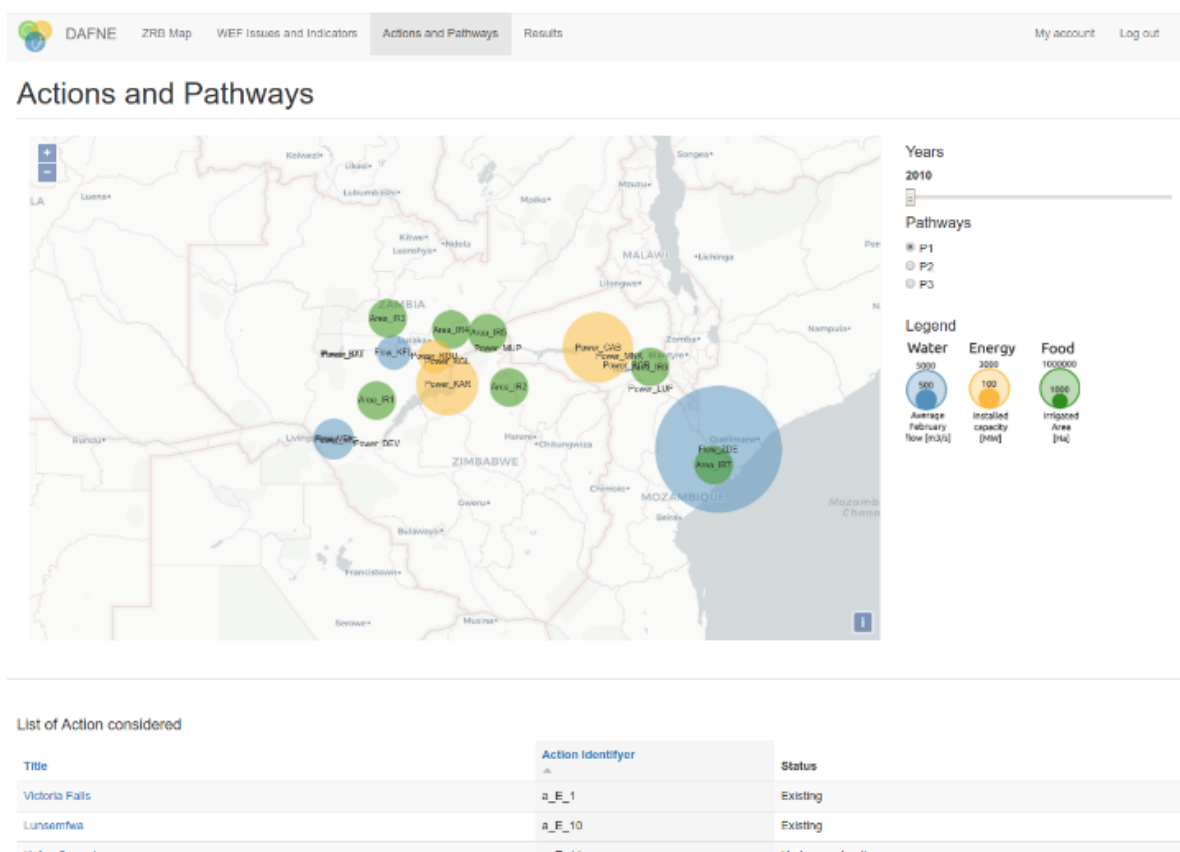


Figure 18 – Actions and Pathways

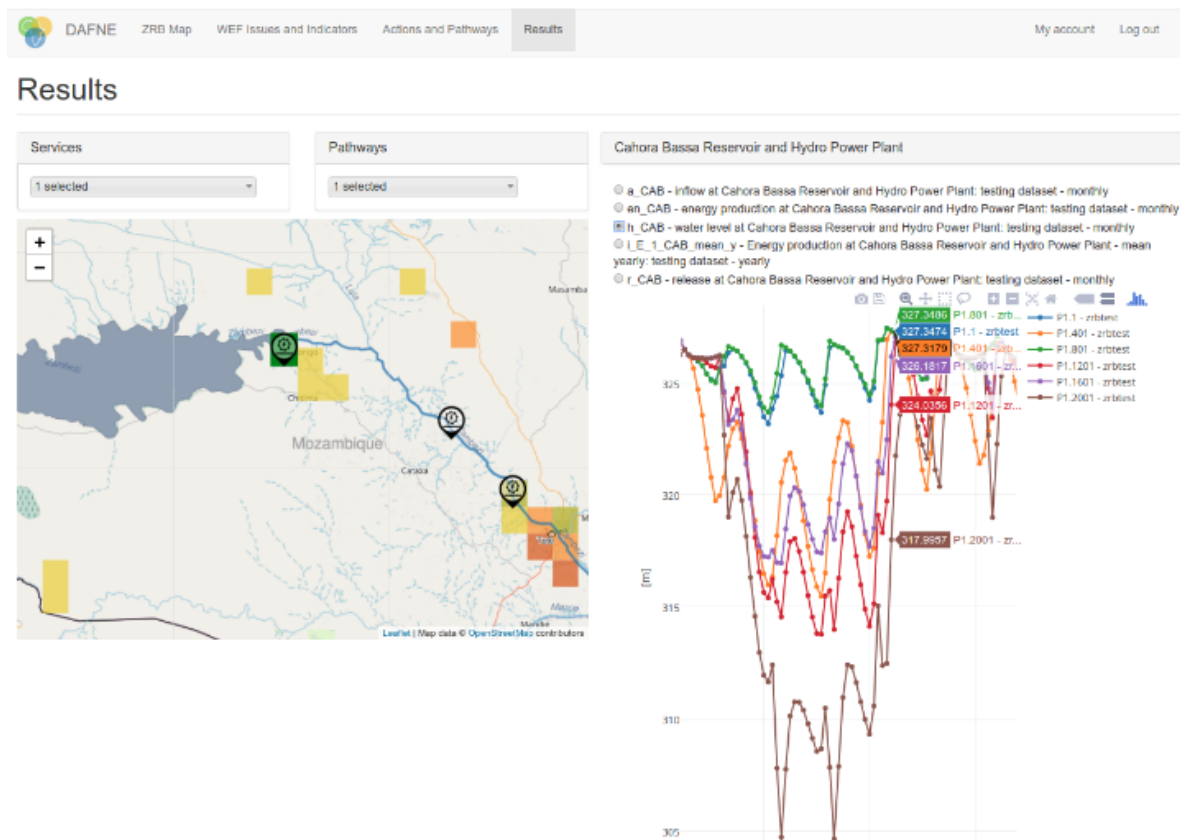


Figure 19 – Results

## 4.2 PROTOTYPE DATA

In order to demonstrate functionalities and collect a first feedback on their use and effectiveness, the following datasets have been uploaded in the DGP:

- Spatial data:
  - a map with essential information on the project case study: administrative boundaries, roads, cities, basin and sub-basins, rivers, water bodies, wetlands, protected areas;
  - a digital elevation model of the basin (DEM);
  - a set of maps related to the Global Surface Water dataset, reporting transition, seasonality, recurrence, occurrence, extent and changes of areas covered by water over the period 1984-2015;
  - markers for each component of the strategic model prototype implemented in the DAF, at the current stage of development.
- Indicators:
  - subset of evaluation indicators for the Energy sector;
  - tentative set of design indicators used in the DAF.
- Actions and pathways:
  - actions for the Energy sector considered for pathways definition for the strategic analysis in the DAF (the list is under review by stakeholders, so changes may still occur);
  - three examples of pathways classes for testing purpose, with random combination of actions and related timing.
- Time series:
  - outcomes of a subset of pathways coming from two test simulations with the DAF model, related to reservoirs: inflow, water level, discharge, energy production;
  - yearly indicators related to energy production for each power plant.

## 4.3 DISSEMINATION THROUGH THE DAFNE GEOPORTAL

Once completed, the DAFNE geo-information portal will be made available to the stakeholders as part of the NSL section on the DAFNE website. As they become available, the main results from the geo-information portal will also be made available to the general public through the DAFNE website, following the timeline set out in the project work plan.

Currently, the DGP is reporting data only for the Zambezi case study and it can be used and browsed only by DAFNE Partners. Whenever new datasets, generated by the project partners and tools, become available the prototype will gradually evolve towards a fully operational DAFNE Geoportal supporting partners and disseminating its contents to stakeholders. The following steps are planned, timing be dependent from related milestones and deliverables:

- extension of the DGP, for partners only, to the Omo-Turkana case study, following the Baseline Scenarios Deliverable (D2.1);
- upload of pathways and indicators, following Milestones 32 and 33;
- upload with evaluation of indicators, value functions and pathways following Deliverable D5.1;
- opening of alpha version to stakeholders involved in the NSL, with preliminary simulation outputs, during the preparation stage of the next NSL workshop (scheduled for Jan/Feb 2019).

The Geoportal and the Multi-perspective Visual Analysis Tools will be important means of communicating and disseminating project results as well as providing a tool which can help analyse alternative pathways to a desirable state of resource management. They will be integrated in the DAFNE website following the timeline set out in the project work plan.



## 5. DISSEMINATION ACTIVITIES

### 5.1 NETWORKING ACTIVITIES

#### 5.1.1 Conferences

The presentation of conference papers and participation by DAFNE partners in external conferences and congresses are an opportunity to present interim project results and share experiences with scientists and practitioners working on related themes. Conferences relevant to contributions from DAFNE partners are listed in Table 7 below. Delegates to these 18 events ranged from 50 to 250.

In addition to conferences and congresses, DAFNE partners also participated in related workshops, meetings and general assembly's covering themes related to the DAFNE project (see Table 8 next page). Outreach via delegates at these 16 events ranged from 20 to 200.

Table 7 – DAFNE partners' attendance to conferences and related activities

Date	Name of Event and Location	Type of communication/ dissemination
6-7 Dec. 2016	EKLIPSE first joint science-policy-society conference on a Knowledge and Learning Mechanism for Biodiversity and Ecosystem Services, Brussels	Promoted project
2-5 May, 2017	African Great Lakes International Conference, Entebbe, Uganda	Keynote, Presentation: Building a Resilient Future Through Water: Connecting the 2030 Agenda and the Paris Agreement
15-19 May 2017	ZAWAFE-2017 conference, Livingstone, Zambia	Promoted project
31 May 2017	16th World Water Congress, Cancun, Mexico	Special Session: "Multi-disciplinary perspectives on the Grand Ethiopian Renaissance Dam (GERD) and the future of water resources management and development in the Eastern Nile Basin" (reference to Omo and Zambezi cases)
28 June - 01 Jul 2017	23rd Annual Conference of the European Association of Environmental and Resource Economists (EAERE) [UN SDSN Greece Pre-launch event]	Presentation and Flyer distribution
09–14 July 2017	IFAC World Congress, Toulouse, France	Oral contributions and paper. See publications section 5.2 below.
11-13 July 2017	International conference on geology, mining, mineral and groundwater resources of sub-Saharan Africa: Opportunities and challenges ahead, Livingstone, Zambia	Promoted project
7- 8 Sept. 2017	3rd International SDSN Mediterranean Conference   Official Launch of SDSN, Greece	Promoted project, Presentation and Flyer distribution
25-26 Sept. 2017	ZAMCOM stakeholders Meeting, Lusaka, Zambia	Promoted project

(Table 7 continued)

<b>Date</b>	<b>Name of Event and Location</b>	<b>Type of communication/ dissemination</b>
2-6 October 2017	1st ASTGS Writeshop, Naivasha Kenya	Scientific workshop: Agricultural Sector Transformation and Growth Strategy: Sustainable Management of Natural Resources (Lead Author Chapter 3)
21-22 Nov. 2017	8th SADC Water Dialogue, Johannesburg, South Africa	
09–14 July 2017	IFAC World Congress, Toulouse, France	Oral contributions and paper. See publications section 5.2 below.
6-9 March 2018	3rd Regional Meeting on Tools for the Sustainable Management of Transboundary Aquifers, Gaborone, Botswana (co-organised by IWMI)	Flyer distribution
8-9 May 2018	SADC Regional River Basin organisations (RBO) Dialogue, Windhoek, Namibia	Presented DAFNE case study on the Zambezi,
11-13 June, 2018	Zambia Water Forum, Lusaka, Zambia	Water as an Economic Driver: The Water-Energy Food Nexus from the Sub-Saharan Perspective (org by UNZA)
17-20 June 2018	1st International Conference on Water Security, Toronto, Canada	Flyer distribution
25-29 June 2018	6th World Congress of Environmental and Resource Economists	Abstract submission
25-28 June 2018	7th European Bioremediation Conference (EBC-VII) and the 11th International Society for Environmental Biotechnology conference (ISEB 2018), Greece	Promoted project

Table 8 – Related workshops, meeting and general assemblies attended

<b>Date</b>	<b>Name of Workshop or Meeting Event and Location</b>
14 Jun 2018	Academy of Sciences South Africa Water-Energy Nexus Innovation Workshop, Pretoria, South Africa
08-13 April 2018	EGU General Assembly, Vienna, Austria
21 Feb 2018	REACH water workshop, University of Oxford, United Kingdom
05 Feb 2018	ZAMCOM event “Water-Energy-Food (WEF) Nexus Partners Meeting”, Harare, Zimbabwe
11-15 Dec. 2017	AGU Fall meeting, New Orleans, USA
10-14 July 2017	International Association of Hydrological Scientists 2017 Scientific Assembly, Port Elizabeth, South Africa
17 May 2017	2017 Festival of Sustainable Development
23-28 April 2017	EGU General Assembly, Vienna, Austria
7-8 Mar 2017	European Climate Research Alliance (ECRA) General Assembly 2017, Brussels, Belgium
27 Sept 2016	International Workshop on "Analytical tools to evaluate the impact of public policies on Sustainable Development Goals, Italy
April 23-28, 2017	EGU General Assembly: Poster on Resilience scales of a dammed tropical river
April 2017	IBP congress hosted by Eawag in Dübendorf (Switzerland): poster presentation

(Table 8 continued)

Date	Name of Workshop or Meeting Event and Location
Sept. 2017	IUFRO anniversary congress, in Freiburg, Germany: Presentation on “Impacts of logging roads on intact forest landscapes in the tropics”
28 June 2017	Policy Workshop on Sustainability and Resource Valuation, Athens, Greece (co-organized by ICRE8)
29 March 2017	Model United Nations, Youth Speak Forum, Athens Science Festival
March 16, 2018	SIM4Nexus and DAFNE - Key Results from the Knowledge Exchange Workshop of Nexus Projects/ First WEF Cluster seminar in Athens (cohost: ICRE8)

### 5.1.2 Project-organized workshops

Thus far six workshops and meetings have been organised by the DAFNE partners as an introduction for the stakeholders to the project and as part of the WP6 Negotiation Simulation Lab. All have been held in the case study basins. One or more events were attended by almost all project partners. See Table 9 below for the workshops organised by the partners. In addition, the project has co-organized the international NEXUS cluster workshop to stimulate and strengthen the dissemination, exchange and collaboration between different projects investigating the NEXUS issues (see details in the next section).

Table 9 – Project-organized workshops

Date	Location	Event
2-3 Feb 2017	Lusaka, Zambia	1st Stakeholder Engagement Zambezi Basin (co-hosted by UNZA, UEM and ETHZ)
11-12 Sept 2017	Lusaka, Zambia	1st Negotiation Simulation Lab, Zambezi Basin (co-hosted by UNZA, UEM, ETHZ and UOS)
30 Nov. 2017	Luia sub-basin, Mozambique	Stakeholder meeting on DAFNE project aims, identifying nexus challenges, facilitating stakeholder networking establishing communication channels (Co-hosted by UEM and IMWI)
12 Feb. 2018	Nairobi, Kenya	1st Stakeholder Engagement Turkana Basin (Co-hosted by ETHZ and ACCESS)
14 Feb. 2018	Addis Ababa, Ethiopia	1st Stakeholder Engagement Omo Basin (Co-hosted by WLRC and ETHZ)
15-16 Feb. 2018	Addis Ababa, Ethiopia	1st NSL, Omo-Turkana Basins (co-hosted by WLRC, UOS and ETHZ)
16 Mar. 2018	Athens, Greece	1 <sup>st</sup> NEXUS Cluster Workshop (co-organized by DAFNE and SIM4NEXUS)

### 5.1.3 Collaboration with other projects and DAFNE liaisons

There are a variety of linkages among project partners with related/complementary projects undertaking activities of mutual interest. Project partners regularly interact and collaborate with other partners from their nexus or water-related projects and share communication and dissemination of relevant project activities and results. These projects include, but are not limited to, those listed in the Table 10 below.

Table 10 – Collaboration with other projects and initiatives

Project or Initiative
WaterNet ( <a href="http://www.waternetonline.org/">http://www.waternetonline.org/</a> )
United Nations Educational, Scientific and Cultural Organization, Institute for Hydrological Education (UNESCO IHE, <a href="https://www.unesco-ihe.org/">https://www.unesco-ihe.org/</a> )
Permanent Zambezi Watercourse Commission, ZAMCOM <a href="http://zambezicommission.org/newsite/">http://zambezicommission.org/newsite/</a>
HydroEnv   Environmental flows under future hydropower operation (ETHZ, SNF NFP 70)
Exchange with C-Cascades ITN (Carbon Cascades from Land to Ocean in the Anthropocene, (H2020 Marie Curie Innovative Training Network) <a href="http://c-cascades.ulb.ac.be/">http://c-cascades.ulb.ac.be/</a>
Collaborate with the Swiss Minerals Laboratory on analysing and modeling mining-related water quality problems in the Zambezi Basin (co-funded by ETH Zurich and its Institute of Science, Technology and Policy, ISTP)
Collaborate with master students from IHE Delft Institute for Water Education to analyse water quality issues downstream of Itzhi-Tezhi dam in Zambia (funded by UNESCO-IHE and Eawag, the Swiss Federal Institute of Water Science and Technology).
Collaborate in a master's student project with the remote sensing group at the Institute of Geography, University of Zurich in order to analyse the temperature distribution in Zambezi River reservoirs.
Partner in H2020 IMPREX that develops forecasts for agriculture and hydropower <a href="http://imprex.eu/">http://imprex.eu/</a>
SIM4NEXUS (Sustainable Integrated Management FOR the NEXUS of water-land-food-energy-climate for a resource-efficient Europe), <a href="http://www.sim4nexus.eu/">http://www.sim4nexus.eu/</a>
Testing models developed in H2020 AMBER project on the Omo-Turkana basins <a href="http://amber.international/">http://amber.international/</a>
Water Resources Development Project (Zambia), Funder: World Bank
Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL), Funder: Federal Ministry of Education and Research
Water Land Ecosystems (WLE) Project entitled "Dams and Malaria: From impacts to actions". Topic of mutual interest: minimizing malaria impacts of dams
World Bank-funded project entitled "Conjunctive Water Management in the Shire River-Aquifer System". Topic of interest: Water Management in the Lower Zambezi
USAID-funded Resilience and Economic Growth in Arid Lands – Improving Resilience (REGAL IR). Topic of Mutual Interest: Resilience in the Omo-Turkana Basin, specifically Kenyan portions
KUL-funded: Digital soil mapping for evaluating crop water productivity in the Zambezi river basin
KUL-funded: Remote sensing of small scale irrigation schemes and modelling their impact on the Water-Energy-Food nexus in the Omo-Turkana Basin
KUL-funded: Towards more climate smart land use systems in the Omo river basin
Working with Sustainable Land Management Project of Ministry of Agriculture and Natural Resources (MoANR) financially supported by the consortium of development partners mainly World Bank and Norwegian Embassy.
Participating in project on water and land resource management
Partner in project 'Global mapping of current hydropower development'
Exchange with Integrated Solutions for Water, Energy, and Land Project at IIASA in Austria (common case study = Zambezi Basin) <a href="http://www.iiasa.ac.at/web/home/research/iswel/ISWEL.html">http://www.iiasa.ac.at/web/home/research/iswel/ISWEL.html</a>
Partner in BMBF WANDEL project: Water resources in energy transition (with cases in Germany, Brazil and Morocco) <a href="https://bmbf-grow.de/verbundprojekte/globale-wasserbedarf/wandel">https://bmbf-grow.de/verbundprojekte/globale-wasserbedarf/wandel</a>

(Table 10 continued)

Project or Initiative
Partner in BMBF STEER project to identify approaches to increase good governance of complex water resource problems <a href="https://www.steer.uni-osnabrueck.de/">https://www.steer.uni-osnabrueck.de/</a>
BlueBRIDGE project (Building Research environments for Innovation, Decision making, Governance and Education, H2020), <a href="http://www.bluebridge-vres.eu/">http://www.bluebridge-vres.eu/</a>
Exchange with H2020 project ICARUS Integrated Climate forcing and Air pollution Reduction in Urban Systems <a href="http://icarus2020.eu/">http://icarus2020.eu/</a>
SMIRES project (Science and Management of Intermittent Rivers and Ephemeral Streams, H2020)
Sustainable Development Solutions Network (SDSN) - Greece
Exchange with H2020 BRIGAD project (BRIdges the GAP for Innovations in Disaster resilience), <a href="http://brigaid.eu/">http://brigaid.eu/</a>
Climate Change under Uncertainty project (Decision Making Under Uncertainty), Athens
GLOBAQUA project (Managing the Effects of Multiple Stressors on Aquatic Ecosystems under Water Scarcity, FP7), <a href="http://www.globaqua-project.eu/en/home/">http://www.globaqua-project.eu/en/home/</a>
Municipality of Athens, Athens Office of Resilience
Integrated Management Plan for Cyprus Coastal Waters (Ministry of Agriculture, Rural Development and Environment, Cyprus) project
POWER   Political and sOcial awareness on Water EnviRonmental challenges, <a href="http://power-h2020.eu/">http://power-h2020.eu/</a>
Collaboration with Public Administration Division of the Fundació CTM Centre Tecnologic, <a href="https://www.ctm.com.es/en/index.php">https://www.ctm.com.es/en/index.php</a>
Exchange with netwerch2O - Network for Water in European Regions and Cities, <a href="http://www.netwerch2o.eu/">http://www.netwerch2o.eu/</a>
University of Applied Sciences Stralsund, IACS-Institute for Applied Computer Science, <a href="http://iacs.hochschule-stralsund.de">http://iacs.hochschule-stralsund.de</a>
National Technical University of Athens, School of Mechanical Engineering, Section of Industrial Management & Operations Research, <a href="http://www.mech.ntua.gr/en/sections/tbd-ee">http://www.mech.ntua.gr/en/sections/tbd-ee</a>
Climate Alliance, <a href="https://www.climatealliance.org/">https://www.climatealliance.org/</a>
KWR Watercycle Research Institute, <a href="https://www.kwrwater.nl/en/">https://www.kwrwater.nl/en/</a>
SIM4NEXUS   Sustainable Integrated Management FOR the NEXUS of water-land-food-energy-climate for a resource-efficient Europe, collaboration in the joint nexus cluster, <a href="https://www.sim4nexus.eu/">https://www.sim4nexus.eu/</a>
MAGIC   Moving Towards Adaptive Governance in Complexity: Informing Nexus Security, collaboration in the joint nexus cluster, <a href="https://magic-nexus.eu/">https://magic-nexus.eu/</a>
UNU-FLORES   United Nations Institute University, Institute for Integrated Management of Material Fluxes and of Resources, collaboration in the joint nexus cluster, <a href="https://flores.unu.edu/en/">https://flores.unu.edu/en/</a>

To support the collaboration, joint dissemination activities and synergies between different water-food-energy nexus projects, DAFNE has co-founded the Nexus project cluster together with the SIM4NEXUS European project. The cluster has been joined by the United Nations University Institute for the Integrated Management of Material Fluxes, UNU-Flores and the MAGIC project. A series of joint activities have already been planned, performed and are currently being organized.

This includes above all the kick-off NEXUS Workshop that was co-organized by DAFNE (Phoebe Kounduri, ICRE8 and Jasminko Novak, EIPCM) and SIM4NEXUS and held on 16 March 2018 in Athens by SIM4NEXUS and DAFNE, in collaboration with the Greece United Nations Sustainable Development Solutions Network (UNSDSN). The workshop was organized to kick-start the sharing

of knowledge among different Nexus research groups, to compare work among different Nexus-related projects, and to seek ways for future collaboration.

The workshop was attended by more than 50 participants and presentations were given by Phoebe Koundouri (ICRE8), Maïté Fournier (ACTeon), Stefania Munaretto (PBL), Chengzi Chew and Jakob Luchner (DHI), Nassia Kassela (GWP-Med Programme Officer), Jasminko Novak (EIPCM) and Mehdi Khoury (University of Exeter). In addition to the participants from the NEXUS projects, a number of Greek experts from institutions such as NTUA, the Technical University of Crete, the Hellenic Centre for Marine Research (HCMR), the Hellenic National Meteorological Service, the Global Water Partnership-Mediterranean (GWP-MED), NCSR Demokritos, Athena Research & Innovation Center and the company E3-Modelling have also participated. A summary of the workshop results has been published and promoted through the online and social media channels of the participating projects.

The cluster has formed a steering committee for planning and coordinating the cluster activities in which DAFNE is represented by Phoebe Koundouri and Jasminko Novak, a mission statement and an application procedure for admitting new projects as cluster members. The next joint event of the NEXUS cluster is already being organized. This is the Resource Nexus Policy & Cluster Workshop, co-organized by the Executive Agency for SMEs (EASME), SIM4NEXUS, MAGIC, and DAFNE (Jasminko Novak, EIPCM and Phoebe Koundouri, ICRE8) to be held on November 27, 2018 in Brussels. This workshop will bring together EU-funded projects related to the resource nexus as well as other (non-EU funded) related initiatives with the objective to stimulate peer-to-peer and science-to-policy discussions on how to get the most out of nexus research for the benefit of society and policy-making.

DAFNE has also participated in the joint presentation booth of the Water4Africa projects (a cluster of seven H2020 projects) at the 7th European Bioremediation Conference (EBC-VII) on June 25-28, 2018 in Chania, Crete. An oral presentation of the project with the general results so far was delivered by Andrea Castelletti followed by a more technical oral presentation by ICRE8. The project was also presented with a poster and flyers, accompanied with a slide-show presentation on a shared display. In addition, a meeting of the present Water4Africa projects was held, in which DAFNE participated through Andrea Castelletti (POLIMI) during which different joint dissemination activities have been discussed and the initiative for the establishment of a Water4Africa joint dissemination cluster was formalised. Overall, the Bioremediation Conference offered excellent visibility for the cluster projects, and future activities and events for further dissemination were discussed and planned during this meeting. Follow-up funding opportunities were also discussed. In addition to DAFNE, other projects involved in the cluster are Waterspoutt, Vicinaqua, AFRIALLIANCE, Mad-ForWater, Flowered and SafeWaterAfrica.

## 5.2 SCIENTIFIC PUBLICATIONS

Project-related scientific work based on project methodologies, processes and results is being published by project partners in as open access publications whenever possible. During two years of the project scientific communication and dissemination at the international level has been successfully pursued through 16 publications and presentations of the project activities and first results at scientific conferences and workshops (16 presentations). This includes 11 journal publications (3 are forthcoming), 5 papers in proceedings of scientific conferences, 5 book chapters, 1 book and several articles in popular media that were published or accepted for publication in the first two years of the project. The scientific publications listed in Table 11 were produced and published or are in progress at the time of writing of this report.

Table 11 – DAFNE-related publications

Title	Authors	Publication type/status
The Grand Ethiopian Renaissance Dam and the Nile Basin: Implications for Transboundary Water Cooperation.	Zeray Yihdego (UNABDN), Alistair Rieu-Clarke, Ana Elisa Cascão (editors)	Contributions to book published 2017 by Routledge
The Fairness 'Dilemma' in Sharing the Nile Waters. What Lessons from the Grand Ethiopian Renaissance Dam for International Law?	Zeray Yihdego (UNABDN)	Brill: International Water Law 2017
The Zambezi River Basin. Water and sustainable development	Jonathan Lautze, Zebediah Phiri, Vladimir Smakhtin, Davison Saruchera (editors) (IWMI)	Book published 2017 by Routledge
Economic instruments, behaviour and incentives in groundwater management	P. Koundouri, E. Akinsete, N. Englezos, X.I. Kartala, I. Souliotis, J. Adler (ICRE8)	Book chapter in: Advances in Groundwater Governance. Edited by Karen G. Villholth, Elena Lopez-Gunn, Kirstin Conti, Alberto Garrido, Jac Van Der Gun. Published 2017 by CRC Press
Conjunctive management of surface and groundwater in transboundary water-courses: a first assessment	Jonathan Lautze (IWMI), Bunyod Holmatov, Davison Saruchera, Karen G. Villholth	Published in: IWA Water Policy 2017, Volume 20, Issue 1
Out of Sight, Not Out of Mind: Developments in Economic Models of Groundwater Management	Phoebe Koundouri (ICRE8), Catarina Roseta-Palma, Nikolaos Englezos	Published in: International Review of Environmental and Resource Economics: Vol. 11 (2017): No. 1, pp 55-96.
Scalable Multiobjective Control for Large-Scale Water Resources Systems Under Uncertainty	Giuliani, M., Quinn, J.D., Herman, J.D., Castelletti, A. (POLIMI) and Reed, P.M.	Published in: in IEEE Transactions on Control Systems Technology, 26th June 2017
Rival framings: A framework for discovering how problem formulation uncertainties shape risk management trade-offs in water resources systems	Quinn, J.D., Reed, P.M., Giuliani, M. and Castelletti, A. (POLIMI)	Published in: Water Resources Research 58(8)
Robustness Metrics: How Are They Calculated, When Should They Be Used and Why Do They Give Different Results?	McPhail, C., Maier, H. R., Kwakkel, J. H., Giuliani, M., Castelletti, A (POLIMI), & Westra, S.	Published in: Earth's Future (6)
Agricultural Sector Transformation and Growth Strategy: Sustainable Management of Natural Resources	Samuel Ochola (ACCESS)	African Great Lakes International Conference 2017 in Entebbe, Uganda
Modelling the Hydrological Regime of Turkana Lake (Kenya, Ethiopia) by Combining Spatially Distributed Hydrological Modeling and Remote Sensing Datasets	Daniela Anghileri, Alexandra Kaelin, Nadav Peleg, Simone Fatichi, Peter Molnar, Clément Roques, Laurent Longuevergne, Paolo Burlando (ETHZ)	Conference abstract and presentation, AGU Fall Meeting 2017 in New Orleans, USA.
Reconciling artisanal gold mining with sustainable development: insights from participatory video in central Mozambique	Stefaan Dondeyne, Eduardo Ndunguru and Jos Van Orshoven (KU-Leuven)	International Conference on Geology, Mining, Mineral and Groundwater Resources of Sub-Saharan Africa, 2017: Opportunities and Challenges Ahead in Livingstone, Zambia

(Table 11 continued)

<b>Title</b>	<b>Authors</b>	<b>Publication type/status</b>
Scenario-based fitted Q-iteration for adaptive control of water reservoir systems under uncertainty	Federica Bertoni, Matteo Giuliani, Andrea Castelletti (POLIMI)	20th IFAC World Congress In Proceedings of 20th IFAC World Congress, IFAC-PapersOnLine, vol. 50, Toulouse, France, July 9-14, 2017.
Integrated water-energy system modelling for optimal hydropower production planning under changing climate in the Zambezi River	Angelo Carlino, Federica Bertoni, Andrea Castelletti.	EGU GA 2018 in Vienna Poster presentation
Solutes concentrations and C-Q relations across Swiss rivers: natural and anthropogenic drivers of solute export at the catchment scale	Martina Botter, Paolo Burlando and Simone Fatichi	Conference abstract and poster presentation
Integrating operation design into infrastructure planning to foster robustness of planned water systems	Federica Bertoni, Matteo Giuliani, Andrea Castelletti	Poster presentation
An inverse nested approach to optimize planning and operation of water reservoir systems	Federica Bertoni, Matteo Giuliani, Andrea Castelletti	Poster presentation
Articles to promote project related topics	ACCESS	Published in several large newspapers such as Daily Monitor, Saturday Nation Kenya reaching close to 62 000 people
International Law developments on the Sharing of Blue Nile Waters: a fairness perspective	Zeray Yihdego (UNABDN), Alistair Rieu-Clarke	Book chapter in: The Grand Ethiopian Renaissance Dam and the Nile Basin: Implications for Transboundary Water Cooperation, edited by Zeray Yihdego, Alistair Rieu-Clarke, Ana Elisa Cascão
Dams and malaria in Africa: Time for Action	IWMI	June, 2018. Water Policy Brief 40. [doi: 10.5337/2018.211] Scientific publication that reached about 150 people
Damns are a breeding ground for mosquitoes – to eradicate malaria, we need to rethink their design	IWMI: Sadoff, C.	Published in The Telegraph: 4 July, 2018 (reaching about 1 Mio people)
Water quality changes by hydropower reservoirs	Bernhard Wehrli et al. (AC ETHZ)	ETH Energy Science Center online: May 23, 2017
Impacts of logging roads on tropical forests.	Kleinschroth, F., Healey, J.R. (USYS-ETH)	2017. Biotropica 49, 620–635.
Infrastructure Expansion and the Fate of Central African Forests	Laurance, W.F., Mahmoud, I.M., Kleinschroth, F. (USYS-ETH)	In: Brouwer, M. (Ed.), 2017. Central African Forests Forever. MB Partner in Communicatie, Bunnik, the Netherlands, pp. 88–95.



(Table 11 continued)

<b>Title</b>	<b>Authors</b>	<b>Publication type/status</b>
Alternative Types of Ambiguity and their Effects on the Probabilistic Properties and Tail Risks of Environmental-Policy Variables	P. Koundouri (ICRE8), N. Pitis, P. Samartzis, N. Englezos, and A. Papandreou,	Review of Environmental Economics and Policy (REEP). Forthcoming.
Governance of the water-energy-food security nexus: A multi-level coordination challenge.	Pahl-Wostl, C.(UO)	2017 in Environmental Science & Policy.
An evolutionary perspective on water governance: From understanding to transformation.	Pahl-Wostl, C. (UO)	2017. Water Resources Management, 30: 2917-2932
Corruption risks, management practices, and performance in water service delivery in Kenya and Ghana: an agent-based model.	Bellaubi, F. and Pahl-Wostl, C. (UO)	2017.Ecology and Society 22 (2).
Envisioning robust climate change adaptation futures for coastal regions: a comparative evaluation of cases in three continents.	Van der Voorn, T., Quist, J., Pahl-Wostl, C. (UO) and Haasnoot, M.	2017. Mitigation and Adaptation Strategies for Global Change 22 (3):519-546
Achieving Sustainable Development Goals from a Water Perspective. [Review]	Bhaduri, A., Bogardi, J., Siddiqi, A., Voigt, H., Vörösmarty, C., Pahl-Wostl, C., (UO)	2016. Frontiers in Environmental Science, 4 (64), doi:10.3389/fenvs.2016.00064

## 6. CONCLUDING REMARKS

In addition to the website, the biannual newsletter and social media channels, communication and dissemination has been successfully pursued through press releases, scientific publications and presentations of the project activities at scientific conferences and workshops as well as at relevant non-scientific events). Audiences are diverse ranging from science to policy sectors as well as the general public through news articles. Collaboration in related projects and initiatives has also significantly supported project outreach. An overview of the key indicators is presented in Table 12 below.

Table 12 – Summary of KPIs Communication and Dissemination

<b>KPI</b>	<b>Index</b>
Website	Visits 9,698
Newsletters	3 reaching an estimated 25,000
Press releases	7
Social Media LinkedIn Twitter	+26,000 >9.000 monthly impressions
DAFNE SlideShare presentations	10
Conferences, workshops and annual meetings (external to project)	34 (including presentations & posters concerning aspects of DAFNE) with 20-250 delegates each
DAFNE project workshops	7
Number of scientific publications	24
Non-scientific publications (news articles)	6
Engagement in related projects/initiatives	42

To facilitate interaction and synergies with other European and international nexus projects, a communication and dissemination cluster of nexus-related projects - Water4Africa projects - has been initiated and prepared in collaboration with the SIM4NEXUS European project and the UN think-tank UNU-Flores (the cluster was successfully launched in a joint workshop in March 2018). The cluster provides excellent visibility for DAFNE and the other six H2020 projects involved, and their presence at future events will assure that the project has wide recognition.

Activities that are currently in development such as further development of the NSL multi-perspective visual analysis tool and the geo-information portal as well as the release of further results from the project will ensure that communication and dissemination expand significantly in the second half of the project. Emphasis will be placed on dissemination events in Africa once concrete results can be presented.