

## Remote Monitoring and Management Approaches and Tools

Many development projects and programmes operate in remote or high-risk environments where physical access to project sites is restricted or limited. Collecting credible and reliable monitoring data at a reasonable cost while securing continuity of operation is a particularly challenging task under these circumstances. Remote monitoring and management approaches have long been crucial elements of successful projects working under insecure conditions or in large intervention zones.

The term Remote Monitoring (RM) refers to the monitoring of project implementation, performance, and impacts from a remote location without the need to be physically present. RM includes a set of tools and practices. In recent years, the technical possibilities, and instruments available for RM have evolved considerably with increased opportunities for remote data collection, analysis, information sharing and monitoring at reduced risks and costs. With the availability of new digital tools, RM approaches are becoming a central and permanent mode of operation under challenging conditions, rather than only a temporary practice or a measure of last resort.

AHT has successfully employed a variety of tools and developed practical approaches for RM, using different technical solutions, depending on the specific project context and information needs. Our approaches for RM are based on the use of Remote Sensing (RS) technology, Computer-Assisted Personal Interviewing (CAPI) using tablets or smartphones, and other ICT tools. AHT's Information Technology and Software Department provides tailor-made solutions and software development for RM for a variety of uses including entire data management and M&E systems. In Rwanda, for example, AHT has developed a system for

project planning and management, budgeting, and cost-control. For the Lake Chad Basin Commission (LCBC), AHT has developed a monitoring system to monitor water resources in the Lake Chad Basin.

AHT uses Remote Sensing technology to monitor project interventions in projects worldwide. With Remote Sensing, no access to the project site is required for data collection. The use of Remote Sensing data can fill gaps in field surveys and allows for additional verification as it provides objective, transparent and reliable data on a project area. Freely available satellite images (Landsat since the early 1970s and from 2016 on Sentinel images) in combination with image analysis modules in GIS software (QGIS, ArcGIS, etc.), can be used in very different areas of RM. Applications range from detailed analyses of geology and topography, explorative site inspections, to crop yield verification, land use assessments, and monitoring of construction sites. Satellite imagery is particularly useful for impact monitoring as it allows analysing and visualising changes over time. Moreover, it lets projects monitor large areas and structures. Amongst other projects, AHT has longstanding experience in remotely monitoring the progress and impacts of various smallholder irrigation projects in Mali.

*(continued on page 3)*

Dear reader,



Head of Business  
Development and  
Marketing/Editor

2020 will always be a memorable year. With the outbreak of the COVID-19 pandemic at the start of this year, the world was turned upside down. The impact on business operations and our social, cultural, and daily lives has been immense. Reflecting on this extraordinary year, AHT has fortunately been able to manage the worst of the crisis. All our international projects have continued and most of our long-term experts have remained on the project sites. As the crisis spread, our IT Department reacted quickly, installing remote working infrastructure within days, enabling project activities to be supported without interruption.

But 2020 was also a year of anniversaries for the AHT. In April, the AHT GROUP saw its 60th year of working in international development cooperation – an anniversary we had planned to celebrate with our entire team, friends, and partners. And with this issue, the All About reaches its 60th edition. In this anniversary issue, we focus on Remote Monitoring (RM), meaning the monitoring of project implementation, performance, and impacts from a remote location without the need to be physically present. In the current global context these approaches are more important than ever and AHT has been installing and using them in our projects for almost a decade.

In company news, as of mid-2019, around 98% of the shares of the AHT GROUP AG had been transferred from the RSBG SE to the RSBG Infrastructure Technologies GmbH (RSINTEC GmbH). In September 2020, the remaining 2% of the shares were acquired by RSINTEC, making it the sole shareholder of the AHT GROUP AG, enabling a change in the judicial form of the company from AHT GROUP AG to AHT GROUP GmbH.

As this year draws to a close, we would like to thank all our employees, project staff, partners and clients for their engagement, trust, cooperation, and support, and for all their personal and professional efforts during this exceptional crisis which helped to make 2020 a successful year, despite the challenges of the global pandemic. We have been able to achieve most of the targets we set for this business year and are looking optimistically to the future.

We would like to wish you and your families a Merry Christmas and a Happy and Healthy New Year 2021.

## 2020 New contracts recently acquired by AHT:

**Mali:** Mobilisation of a facilitator-moderator in the framework of a workshop to exchange and capitalise experiences “On the road to 2030 – What role for agriculture and rural development?” (Lux-Development) +++ **Afghanistan:** Sanitation Concept Study for the City of Kabul (KfW) +++ **Tajikistan:** Feasibility Study Enhancing Resilient Rural Development through Adapted Land Use and Disaster Risk Mitigation in Tajikistan (KfW) +++ **Chad/Cameroon:** Transboundary Water Management: Adaptation to Climate Change and Resource Conservation in the Waza-Logone Wetlands (GIZ) +++ **Albania:** EU support to “Waste Water Management and Treatment Services” (EUSWAM) / Performance and Customer-Oriented Drinking Water and Wastewater Services, Addendum (GIZ) +++ **Niger:** Implementation of the Programme for the Rehabilitation of Public Irrigation Schemes, Addendum (KfW) +++ **Tunisia:** Modernisation of Public Irrigation Schemes of Sidi Thabet: Accompanying Measures, Addendum (KfW) +++ **Kosovo:** Sewage Disposal in Southwest Kosovo Phase IV Peja – Accompanying Measures, Addendum (KfW) +++ **Caucasus:** Consulting for the Implementation of the Transboundary Joint Secretariat - Phase 3, Addendum (KfW) +++ **Malawi:** More Income and Employment in Rural Areas through Infrastructures and Financing (MIERA) - Implementation of Economic Infrastructure, Addendum (KfW) +++ **Worldwide:** Evaluation of project outlines of the thematic IKI selection process 2.0 2019 - subject area biodiversity (BMU / ZUG) +++ **Mali:** Small-scale Irrigation – Initiative to support resilience through irrigation and the appropriate management of resources (IPRO-IRRIGAR), Components: Koulikoro and Sikasso, Technical Assistance to the Permanent Technical Secretary (PTS) of the National Programme for Proximity Irrigation (PNIP), and Component: Feed the Future Small-scale Irrigation (FTFPIP), Addendum (KfW) +++ **Mali:** Small-scale Irrigation – Strengthening Irrigated Agriculture (IPRO-REAGIR) Component Dogon country, Koulikoro and Inner Delta (IPRODI), Addendum (KfW) +++

Cover photos:

Construction Supervision via Satellite Images within the IPRODI Project, Mali

left: Before Construction, Sentinel 2 Image from 22.2.2019, site 1949 Tiangara

right: During Construction, Sentinel 2 Image from 17.6.2019, site 1949 Tiangara

## Remote Monitoring and Management Approaches and Tools (contd.)



Dirk Rolker  
Agro-economist



Charlotte Kahre  
Project Manager

While Remote Sensing has been around for several decades, the use of unmanned aerial vehicles (UAV), commonly referred to as drones, is a relatively recent branch of RS. Drones can be used to observe small areas for which the resolution of satellite images is too coarse. Moreover, unlike satellite images, the timing and extent of images taken with UAVs is completely under control of the user. The finer resolution of images taken with UAV cameras enables very detailed analyses with data that can be obtained relatively quickly and at reasonable costs. The evaluation of aerial photographs can be used to identify potentially suitable project locations, to observe the functioning of infrastructure and to precisely measure cultivated or forested areas. Drone technology has been a part of AHT’s RM approaches in small-scale irrigation projects in Mali since 2016. In this context, AHT uses UAVs to monitor project indicators, such as cultivated areas.

CAPI is a potentially cheaper and faster alternative to traditional survey methods using paper questionnaires. It can support the data collection process in the field, facilitate access and availability of data all while improving the quality of data. In the past decade, thanks to the availability of robust tablet computers with a long battery



Surface Monitoring – Drone Image (M’Pégnesso Site, Sikasso Region, Mali, Rainy Season 2017)

life and increasing mobile network coverage in many rural areas around the world, the use of CAPI has become more widespread. Various survey software packages exist that have been designed specifically for collecting field data under challenging conditions such as remote and rural areas in developing countries. Data collected in the field are uploaded to a central server via a mobile data connection, allowing project managers and technical experts to remotely monitor progress and review the submitted data. AHT has successfully worked with various survey software packages depending on the specific project context. In the past years, AHT’s experts have planned and implemented surveys and M&E systems using CAPI in countries as diverse as the lowlands of Ethiopia, the highlands of Madagascar, and the coastal regions of Morocco. In Mali, Chad, and Pakistan, AHT is using mobile data

collection tools to monitor project progress and impacts, including socio-economic data collection as well as construction supervision.

The use of technology facilitates data availability and enables rapid or near real time access to data from any remote location and is therefore effective to stay informed, track indicators and control progress of projects in a timely manner. Technology alone, however, cannot provide a complete picture or replace physical presence. A combination of technology- and management-based approaches, such as third-party monitoring on the ground through the involvement of national partners is key to the effectiveness of the applied technology. Whatever system or software one chooses, RM technologies have helped to improve data quality, and significantly reduced the time needed to collect and process data. These technologies have made it considerably easier to remotely manage and monitor international development projects under challenging conditions.

In this issue of All About AHT, we present some examples of our projects in this field.



GIS and Remote Sensing within the IPRODI Project, Mali  
Image from Sentinel 2 Satellite with cadastre of cultivated areas from 25.10.2019 (Goundam Touskel)

## Chad/Cameroon: Transboundary Water Management – Conduction of a Socio-Economic Survey

AHT has been supporting the Lake Chad Basin Commission (LCBC) in the frame of various GIZ projects since 2005 (see also article on page 7). Currently, AHT is using the software Survey Solutions, developed by the World Bank, to conduct a socio-economic survey among 1,000 households living in the border region between Cameroon and Chad. Interviewers on both sides of the border travel to rural areas where they interview small-scale producers such as farmers, herders and fisherfolk about their livelihoods.

The collected data are uploaded to a server via a mobile data connection allowing project staff in Chad and Germany to monitor the progress of the survey, review the submitted questionnaires, and provide timely feedback to staff in the field. AHT's experts have set-up an M&E system based on KoBoToolbox to monitor the progress and impact of measures that help small-scale producers to adapt to the impacts of climate change. The KoBoToolbox comprises a set of tools developed to collect field data in developing countries and in the context of humanitarian crises. Extension experts working directly

with the target groups use the app KoBoCollect to gather data in the field which can be reviewed and analysed by GIZ, LCBC and AHT staff on a dedicated M&E server.

*Dirk Rolker*



*Interview with Tablet PC (CAPI), Chad ©GIZ*

## Pakistan: Remote Construction Supervision



*Dr. Ing. Marielly Casanova-Israel  
Communal Infrastructure  
and Urban Development  
Expert*

Under the “German Contribution to the Refugee Affected and Hosting Areas Programme III (RAHA III)” in Pakistan, a total of 43 projects in the education, health, infrastructure, and WASH sectors in six districts of the Khyber Pakhtunkhwa Province have been carried out. Contracted

by UNHCR represented by KfW, the role of AHT included supporting the supervision of

construction sites, assessing progress and assuring the quality of the work. Due to the remoteness of project sites and security issues in some of the districts, the open source toolkit KoBo Toolbox was introduced as a Remote Monitoring tool. The goal was to objectify the assessment of the overall construction progress and make the analysis accessible in real time to stakeholders.

As the internal data evaluation and reporting possibilities of the KoBo Toolbox were not sufficient for supervising construction progress, an external analysing software was developed. To use the online and on-time data management, the analysing tool needed to be web-based to access and analyse the

data from the KoBo-server but also to show all past monitoring rounds for each project on the dashboard.

To get useful, reliable data, support must be given to the staff entering the data on site via mobile phones, who had to be trained and encouraged to continuously use the system. As a result of the new monitoring mechanism, the flow of information from the field has improved and the construction progress has been easier to measure and is now visible for all concerned parties.



*Solar Installations for Primary Health Centres ©Omer Rasheed*

## Remote Monitoring in Mali

### Small-scale Irrigation in the Inner Niger Delta (IPRODI)

The Small-scale Irrigation project in the Inner Niger Delta (IPRODI) has been using Remote Sensing via satellite images since 2012 to remotely monitor project interventions. The project has developed a Geographic Information System (GIS) as the main tool to store, analyse, and visualise satellite images for progress monitoring of activities in the Niger Delta in central and northern Mali. Today, the GIS is used to guide decisions on which irrigation perimeters to rehabilitate and where to develop new perimeters. The project also uses a system based on georeferenced photos to track, control, and document the progress of its interventions. Within the framework of IPRODI, satellite imagery is used for construction supervision, crop yield verification and estimation. This analysis is based on the calculation of the Normalised Difference Vegetation Index (NDVI), which quantifies vegetation by measuring the difference between near-infrared (which vegetation strongly reflects) and red light (which vegetation absorbs) and allows for a verification of the cultivated areas and yield estimates.

*Christian Bürger*



IPRODI: Construction Supervision with Sentinel Photos

### Small-scale Irrigation in the Regions of Gao and Ménaka (IPRO Gao and Ménaka)

Since 2018, AHT is using Akvo tools, developed by the Akvo Foundation, which builds open-source internet and mobile software for data collection, monitoring and analysis within the framework of the project “Small-Scale Irrigation in the Regions of Gao and Ménaka” in Mali. The tools consist of an application installed on a smartphone and an online workspace. Data collection is based on individual monitoring surveys. The smartphone-based application enables the

collection and analysis of georeferenced data with the possibility of including other data points such as photos or videos. The collected data is immediately transferred to the online workspace at the time of data entry, for further analysis, verification, and visualisation, such as automated maps or graphs for reporting and publication.

*Charlotte Kahre*

### Small-scale Irrigation (IPRO REAGIR / IPRO IRRIGAR) – Drones

The project IPRO-IRRIGAR Sikasso has been a pioneer in the use of UAVs for Remote Monitoring in Mali. Since 2016, the scope of application has been expanded and drones are now used as a central element for Remote Monitoring in other irrigation projects with interventions in Koulikoro and Sikasso. UAVs are powerful tools for site inspection and monitoring and evaluation of cultivated areas and the impact of project interventions over time. The quadcopter UAV (brand DJI), used in the IPROs, allows a hovering flight and is suitable for observing small areas, or areas that are difficult to access. Aerial photographs taken with UAVs, allow for exact measurement of cultivated areas and evaluation and comparison of areas over time, by considering several cultivation periods. In addition, the implementation and extent of environmental protection measures, such as reforestation can be analysed and validated through aerial surveys. Within the framework of the IPROs, aerial drone surveys are organised in several steps. A reference

situation is established at the beginning of the project intervention and a second survey is conducted at the end to be able to compare the evolution of a site and evaluate the

project's indicators. During the construction phase, drones are occasionally used for functional inspections.

*Thomas Kaiser*



Surface Monitoring – Drone Image (Lofigué Site, Sikasso Region, Rainy Season 2017)

## Indonesia: Drone Mapping in Central Sulawesi



Bernd Unger  
Chief Technical Advisor



Agus Salim  
Vice President  
PT Hatfield, Indonesia

The Forest Programme II (Jambi, Sumatra) and the Forest Programme III (Central Sulawesi) both use drones to monitor reforestation in Indonesia. At the beginning of reforestation activities, orthophotos are made of the areas with a target pixel

resolution of 5 to 10 cm/pixel. During annual monitoring, these areas are then flown over again with drones. In this way, a series of orthoimages over a period of three to four years is established. The data collected by the drones is entered into the project database, where it is compared, synchronised, and analysed with other data collected during regular monitoring.

The overall workflow of drone mapping consists of four major steps: (1) flight planning & fieldwork preparation, (2) data collection in the target mapping areas, (3) data processing and quality assessment, and (4) map analysis and interpretation.

This monitoring system uses drone products from DJI (Mavic Pro and Phantom professional series). Both models have good cameras (12 to 20 MB pixel) for mapping purposes and are easy to carry during fieldwork. One battery is sufficient for 15-20 minutes effective flight time and able to cover 25 to 90 hectare areas at a 5-10 cm ground sampling distance (GSD).

For photo stitching and the generation of orthoimages both projects use professional aerial mapping software such as Pix4Dmapper and Agisoft Metashape. This software generates rapid results, requiring between a few minutes to an hour of data processing when using a mobile workstation (laptop). After carrying out further data processing steps in the office, the project generates high-resolution Digital Surface Model and Digital Terrain Model images.



Orthoimages of an Afforestation Plot, July 2019



Orthoimages of an Afforestation Plot, December 2019

## Cameroon: Programme for the Economic and Social Development of Secondary Cities Exposed to Instability Factors (PRODESV)

PRODESV supports 15 secondary cities by strengthening their capacities to cope with crises, accommodate new arrivals and promote inclusive communal socio-economic development, in order to contribute to strengthening regional stability and better migration management in Cameroon.

The set-up of PRODESV - with the client, FEICOM (Equipment Special Fund for Mutual Assistance), and the consultant situated in the capital while the infrastructure projects are built in remote, crisis-prone areas of Cameroon - is predestined for the development of a Remote Monitoring system. For the successful implementation of the project, a continuous exchange between the project areas and the capital is

of utmost importance. At the moment, AHT and the lead partner, Ambero Consulting GmbH, are discussing the set-up of a RM system, analysing available tools and

appropriate hardware for data collection and analysis as well as identifying stakeholders' expectations.

*Karolin Herperts*



Construction Progress on Latrine Blocs, Mintom High School, Mintom Municipality © Ambero Consulting GmbH



## News from the Department of Water Resources Management and Irrigation



*Dr. Jürgen Rambow  
Head of Water Resources Management and Irrigation*



*Anne Willenberg  
Deputy Head of Water Resources Management and Irrigation*

In 2020 the Water Resources Management and Irrigation Department has implemented projects in 14 countries, predominantly in the MENA Region and Sub-Saharan Africa. As a response to the worldwide COVID-19 pandemic, measures such as sensitisation campaigns or distribution of sanitary equipment were integrated in on-going projects (e.g. in Chad, Kenya, and Mali). In addition, new IT supported solutions for project monitoring and communication have been developed and applied in various

project contexts (i.e. India, Chad) thus further diversifying our range of tools for continuous support - in situ and remote - for our clients and partners worldwide.

### India: Training Programme on the River Basin Management Cycle

In the framework of the GIZ project “Support to Ganga Rejuvenation” (SGR), AHT together with The Energy and Resource Institute (TERI) developed and implemented a modular training programme on the River Basin Management (RBM) Cycle in India. The training programme targeted stakeholders both at national and state level, addressing relevant approaches and experiences from the implementation of the Water Framework Directive (WFD) in the European Union and cases of RBM in India. In addition, AHT and TERI designed and conducted a Training of Trainers (ToT) for three professional training institutes in India. After a series of face-to-face courses in New Delhi, Dehradun, Lucknow and Pune the implementation shifted to an online format in response to the COVID-19 pandemic. To facilitate the online exchange a customised e-learning platform based on the open-source learning

management system Moodle was deployed. With the completion of the training programme in September 2020 the platform

was handed over to the National Mission for Clean Ganga (NMCG). *Andreas Havemann*



*Participants of the RBM Cycle Training Module 1 in Dehradun, India in December 2019  
“Understanding the RBM cycle”<sup>©</sup>GIZ*

### Chad/Cameroon: Transboundary Water Management: Adaptation to Climate Change and Resource Conservation in the Waza-Logone Wetlands

In May of 2020 AHT was contracted by GIZ to provide services as part of its joint programme “Sustainable Water Management in the Lake Chad Basin”, continuing AHT’s long-standing cooperation with the Lake Chad Basin Commission (LCBC). The joint programme of GIZ and the Federal Institute for Geosciences and Natural Resources (BGR) supports the LCBC in fulfilling its mandate to sustainably manage water resources, preserve ecosystems, and promote peace and security in the basin. The GIZ module implements various measures to improve transboundary water resource management in the context of climate change. Under the title “Transboundary

Water Management: Adaptation to Climate Change and Resource Conservation in the Waza-Logone Wetlands” AHT will assist the LCBC until 2022 to identify, plan, and implement climate change adaptation measures in key agricultural production systems with around 5,000 farming households. AHT will develop ‘hot spot’ maps of the Waza-Logone wetlands, and operationalise the Lake Chad Information System (LIS) by supporting trainings and data acquisition, the development of annual monitoring reports, the implementation of the LCBC’s communication strategy, as well as training/capacity building measures. Mobilisation of the AHT team began in May

2020 in the middle of the global COVID-19 pandemic preventing travel to the Lake Chad Basin. However, with the support of national staff and intense collaboration with partners, and by using distance training through AHT’s tailored IT infrastructure, the expert team have continued providing advisory and have made significant progress. *Patrick Bracken*



## News from the Department of Nature Conservation, Forestry and Agriculture



Jörg Lieberei  
Head of Nature Conservation, Forestry and Agriculture



Zihni Erençin  
Deputy Head of Nature Conservation, Forestry and Agriculture

AHTs' Department for Nature Conservation, Forestry and Agriculture has been able to continue all long-term projects in the face of the restrictions caused by the global pandemic. Whilst most of our long-term experts have remained on-site, some projects are now being managed and monitored remotely, and the crisis has not led to major delays or difficulties in implementation. We are currently implementing projects in 12 countries, with Tajikistan recently added to our portfolio. Here, we have started with a Feasibility Study on enhancing resilient rural development through adapted land use and

disaster risk mitigation. With the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) we have added a new client to our list of partners.

### Evaluation of Project Outlines of the Thematic IKI Selection Process 2.0 2019 - Subject Area Biodiversity

The International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) finances climate and biodiversity programmes in ODA eligible states. In the field of biodiversity, the IKI supports partner countries in their efforts to achieve the goals of the Convention on Biological Diversity (CBD) to address the dramatic global loss of our natural resources.

The Zukunft-Umwelt-Gesellschaft (ZUG) gGmbH has been commissioned by BMU to manage the funding programme and process the application formalities. AHT was contracted by ZUG to evaluate 13 project proposals (project outline + concept note) submitted under the thematic IKI selection process 2.0.2019, in the subject area "Biodiversity", covering three thematic funding priorities, namely: i) Protection of



terrestrial and marine biodiversity (8 proposals); (ii) Protection of pollinator and insect diversity; and (iii) Capacity building for the implementation of the work programmes of the World Biodiversity Council IPBES (3 proposals). *Zihni Erençin and Jörg Lieberei*

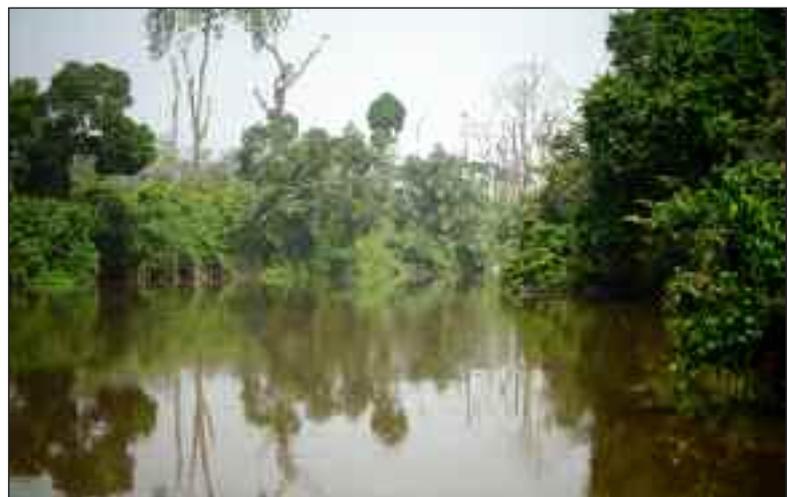
### Ivory Coast: Biodiversity Conservation



Santiago Ormeno  
Chief Technical Advisor

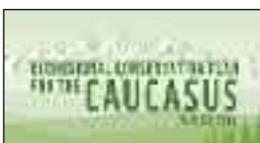
AHT has been supporting the Ministry of the Environment and Sustainable Development in Ivory Coast since March 2017 with the establishment of a 4 km wide biodiversity corridor linking the Taï National Park (in Ivory Coast) and the Grebo-Krahn National Park (in Liberia). The project is financed by KfW and the Ivorian Foundation of Parks and Reserves (FPRCI). Having completed the set-up phase, the project is now developing a process framework for involuntary restrictions, in line with the Social and Environmental Framework of the World

Bank. In order to ensure participation and local endorsement, a study on local perceptions following the KAP (Knowledge – Attitudes – Practices) methodology has been developed.



Potential Corridor along the Hana River ©B. Schaffner

### Caucasus: Ecoregional Conservation Plan (ECP) Completed



The Transboundary Joint Secretariat (TJS) for the Southern Caucasus, 3rd phase, is a project of WWF, co-financed by the Federal Republic of Germany (BMZ) through KfW, with AHT GROUP and REC Caucasus as implementation consultants. The TJS completed the revision of the Ecoregional Conservation Plan (ECP), with contributions from 180 experts from six countries. As an Outcome,

Volume 1 describes the Ecoregion's biodiversity and the conservation plan with 86 actions to achieve 13 conservation targets. Volume 2 provides background information. *Servi Nabuurs*

The two volumes are available at:

[https://wwf.panda.org/knowledge\\_hub/all\\_publications/?853091/Ecoregional-Conservation-Plan-ECP-for-the-Caucasus-2020-Edition](https://wwf.panda.org/knowledge_hub/all_publications/?853091/Ecoregional-Conservation-Plan-ECP-for-the-Caucasus-2020-Edition)



## News from the Department of Communal Infrastructure and Governance



Ulrich Sammet,  
Head of Communal  
Infrastructure and  
Governance



Ingo Rudolf  
Deputy Head of  
Communal Infrastructure  
and Governance

The Department of Communal Infrastructure and Governance is currently implementing projects in 15 countries in South-East Europe, the MENA Region (Middle East and North Africa), central and southern Africa in the fields of water supply, sanitation, solid waste management, governance, and decentralisation. This year, our portfolio has been expanded by working with partner countries heavily affected by fragility and conflict in South Asia.

In this anniversary issue of All About AHT we present some of our most recent projects in South Asia: Promoting Sustainable Urban

Development through Resilient Resource Management with a Participatory Approach in Mansehra (Pakistan) and Sanitation Concept Study for the City of Kabul (Afghanistan), both financed through KfW. Other newly signed contracts from this year include Sludge Management Tunisia (KfW), GIZ Sector Project Concepts for Sustainable Waste Management and Circular Economy and FADeCV, Benin (KfW).

### Pakistan: Promoting Sustainable Urban Development

At the start of November 2020, AHT began implementing the Accompanying Measures Project in the Mansehra District of Khyber Pakhtunkhwa Province in Pakistan.

The project was developed to ensure the integration of the water supply, wastewater, and solid waste management sectors with the design of pilot infrastructure schemes. It will contribute to maximising the socio-economic benefits of these multi-sectoral interventions through spatial planning initiatives, infrastructure development and awareness raising activities.

Its objective is to identify, develop, implement, promote, and document pilot models based on a combination of related infrastructure measures, suitable for

replication in other districts of Khyber Pakhtunkhwa. Achieving this objective includes building the capacity and

competence of public service departments at provincial, district, and Tehsil level.

*Marielly Casanova-Israel*



Wastewater and Solid Waste polluting Streams in Mansehra that are yet to be rehabilitated ©M. Casanova-Israel

### Afghanistan: Sanitation Concept Study for the City of Kabul

The project, jointly financed by the Islamic Republic of Afghanistan and the Federal Republic of Germany through KfW, is currently in the data collection phase. A kick-off workshop was held late November 2020 in Dubai to present the progress and discuss challenges with the Client, the Afghanistan Urban Water Supply and Sewerage Corporation (AUWSSC). The project aims at the development and elaboration of a comprehensive concept to ensure a functioning wastewater and storm water disposal for the city of Kabul.

Resulting from the assessment of the current situation and data analysis, the consortium of Dorsch-AHT-Dynamic Vision will develop conceptual engineering solutions, including centralised and decentralised wastewater collection and treatment systems and reuse and disposal options for the entire project area. Our services concentrate on providing the AUWSSC with all the necessary

managerial, technical, economic, social, and environmental tools for the sanitation measures' implementation.

The concept study will result in the elaboration of a staged master plan for the components of the future wastewater and drainage system analysed in the context of the study and identified for financing. These measures will be prioritised into short-term, medium-term, and long-term investment measures in line with the strategies for wastewater and storm water disposal. Thus, providing a clear road map for the AUWSSC, Municipality of Kabul and other stakeholders in the sector for the implementation of future investments.

*Sayed Mudasser Shobair*



## News from the Department of Information Technology and Software Development



Thorsten Kisner  
Head of Information  
Technology and  
Software Development

Throughout this year the Department of Information Technology and Software Development continued work in Rwanda on the Monitoring & Evaluation Information System (MEIS), implementing a Digital Payment System to improve the approval processes of various social protection programmes and accelerate cash transfer to beneficiaries. Additionally, a Hydro Resources Monitoring System was developed for the Pakistan Water & Power Development authority in a project financed through KfW and the existing Lake Chad Information System (LIS) for the Lake Chad Basin

Commission was improved with several new modules, financed by World Bank.

### AHT Academy: A Platform for E-Learning and Online Seminars

In response to the restrictions required by the COVID-19 pandemic, AHT has deployed an e-learning platform, 'AHT Academy', to provide training sessions to partners in the absence of face-to-face sessions or group meetings. The platform is used both for the internal training of AHT staff as well as external training and knowledge transfer in ongoing projects.

As web-based learning consists of much more than simply making training materials available online via E-mail or a homepage, this platform was configured and launched to bring trainers and trainees together in a virtual environment. This platform makes it possible for training courses and modules to be edited directly online using the built-in tools, integrating common file formats such as PDF, videos or presentations. In addition, interactive training activities including

online fora, chat rooms, quizzes or surveys can be included for each course. Another very important feature is the seamlessly integrated video conferencing capability. In addition to the standard possibilities of having a multi-user audio and video channel, it is possible to upload PDF or PowerPoint files directly into the conference room and to present the slides in real-time. Trainers and trainees can interact with these slides using whiteboard features, underlining our "drawing" directly on the slide with built-in tools.

A first online seminar was held on April 30th to support Water Utilities in Albania as part of the "EU Support to Wastewater Management and Treatment Services (EUSWAM)". For the Local Administrative Entities Organisation Development Agency (LODA) in Kigali, Rwanda, a complete on-the job training for Software Developers was conducted, mostly using the conferencing tools and screen-sharing features provided by the e-learning platform.

To date, we have nearly 40 different online courses hosted by the AHT Academy for a total of approximately 360 users. Online seminars (video conferencing with online presentations) were successfully carried out with over 65 participants simultaneously attending the same session. The platform also enables tracking of the participants learning progress, and customised course certificates can be generated. The feedback from users on their experience with the platform has been positive, and most participants appreciate having training material directly available as they can be accessed and reviewed in a flexible way combined with online sessions serving to clarify issues or to go into greater detail.

Screenhot of AHT Academy Platform





## Interview with Dr. Hubertus Schneider on the 60th Jubilee of AHT GROUP

**C.L.:** *Dr. Schneider, congratulations! The AHT GROUP turned 60 in April of this year – 60 years of company history working in international cooperation. Could you tell us a little about the early years of the AHT and the major company milestones over the decades?*

H.S.: The roots of the company go back to 1960 and the founding of Agrar- und Hydrotechnik GmbH by Ferrostaal AG. In the course of the decolonisation of Asia and Africa, new markets opened up and Ferrostaal AG, as a supplier of agro-industrial plants, needed a project developer in advance. With the establishment of the different development aid institutions in the mid-60s, the focus on development cooperation increased. On October 1st 1965, the Dutchman Mr. Johannes C.J. Mohrmann then took over the management of Agrar- und Hydrotechnik GmbH. For years prior to this he had been the head of the agricultural department of the European Development Fund of the European Economic Community (EEC) and so had an excellent, worldwide network. He was responsible for bringing talented experts from various European countries to the AHT and built up the consulting company which has since won the approval of clients at home and abroad and has gained worldwide recognition. In 1982, a management buyout led by 6 senior employees took place and the company broke away from the parent company, Gutehoffnungshütte. The AHT developed rapidly under the new management and, together with the newly founded Gesellschaft für angewandte Fernerkundung (GAF), the Deutsche Projektunion (DPU) and the AEW, benefited from the economic development happening in Germany. In the shareholder agreement of the management buyout, it was agreed that the shareholders would withdraw from the company on reaching retirement age and offer their shares to the remaining shareholders. In 1994, following difficult negotiations, Mr. Gerardus van Wissen succeeded in acquiring all the shares in Agrar- und Hydrotechnik. Mr. van Wissen shaped the AHT over the following decades, expanding upon its business in development cooperation and adding on agricultural interests in Eastern Europe, particularly in Russia, through daughter



*To work for AHT means for me “Adventure” because all projects and countries are different and challenging, “Helpfulness” because we develop tools and always try to find a solution as well as “Transmission” of knowledge, of know-how and we also learn from the local population.*

Magali Boulic, Financial Project Controller

*Having read and translated hundreds of various AHT project-related documents over the last six years, I have gained more understanding about the major issues and challenges our planet is facing, including climate change, sustainable livelihoods, and protection of our biodiversity. The open-minded atmosphere as well as the different cultural backgrounds of my co-workers make me feel like I belong to a big family sticking together to contribute to a better world.*

Mélanie Salaun, Sworn Translator



companies. In 1995, Agrar- und Hydrotechnik GmbH was re-named AHT International GmbH. In the previous year, AHT Group AG had been founded, which eventually merged with AHT International GmbH in 2003. I have been managing director of AHT since 2005. Under my leadership, AHT has further evolved in its traditional area of development cooperation and both turnover and profits have increased considerably. In 2017 and 2018, AHT GROUP AG was bought over in a two-step deal by the RAG Stiftung Beteiligungsgesellschaft (RSBG). The AHT is part of the RSINTEC Cluster, benefitting from the group of firms through management support, trainings etc. Since the end of November of 2020, the AHT changed its judicial from AHT GROUP AG to AHT GROUP GmbH.

**C.L.:** *How has the Team Composition changed over the years? How would you describe the AHT today?*

H.S.: Today, in 2020, the AHT is younger, more female, more dynamic, more international and more flexible than ever. When I started working at AHT in 1993 as a junior expert in hydraulic and cultivation engineering there wasn't a single woman working in the operative side of the business and, at 33, I was by far the youngest employee. Today, the situation is completely different. We have many female project managers and technical experts, in addition to women working in the administrative areas. Our employees are much younger and come from many countries, and AHT has a successful and flexible approach to parental leave, part-time work and working from home. In the past, employees either left AHT during their trial period or stayed until their retirement. Today we have a larger fluctuation in staff, which has both advantages and disadvantages, depending on the perspective. In general, AHT has managed to move with the times and adapt well to changes in society.

**C.L.:** *Tell us something about the internal structure of the AHT. What company strategies are you following?*

H.S.: The strategy in recent years has primarily been based on the following principles: 1. Technical organisation of the company, 2. Concentration on the core business, 3. Regional focus, and 4. Building and developing strategic partnerships. Following several company reorganisations (including profit centres, regional orientation, etc.) it was decided to organise the company according to technical criteria so corresponding technical departments were formed. AHT is currently divided into four technical departments: · Water Resource Management and Irrigation; · Nature Conservation, Forestry and Agriculture; · Communal Infrastructure and Governance; and our youngest technical department that was only founded 5 years ago, · Information Technology and Software Development. With this technical focus, we are well prepared and positioned for the most important topics that bilateral and international donors are currently pursuing. Before restructuring, AHT was active worldwide with no regional focus. But country offices founded around the world (in Tunisia, Romania, Uzbekistan, Guatemala, etc.) weren't very successful. This led to the

*Working for AHT makes me feel to be contributing a little to a greater good. At the same time, the medium size and the atmosphere of the company are evocative of something resembling an elective family. Working in a multi-cultural and multi-disciplinary team in the HQ and even more so in the field is very enriching and rewarding. The associated challenges are offset by the hospitality and kindness I experience and by the genuine interest in tackling grievances together.*

Karolin Herpers, Public Policy Expert





*It is somehow astonishing that well over 30 years have passed and I still find myself working for AHT. But I still enjoy it and always had. Think of a medium-size consulting firm, give it a mission that stands for sustainability, poverty alleviation, nature- and climate protection, set up flat hierarchies, engage highly professional staff with colleagues and friends of all age brackets and from all continents, add a working climate that puts people first – well, you end up with a mix of really good taste, if you ask me...*

*Klaus Mittmann, Senior Project Manager*

strategic decision of focussing on the francophone countries in Africa and the countries in Southeast Asia. Another important element for the successful implementation of this regionally focussed strategy was the establishment and further development of strategic partnerships in the partner countries. AHT is now particularly successful in countries where long-term, strategic partnerships with local partner companies have been successfully established. We have been working with some of these partner companies for decades and these national networks of local partner companies are becoming increasingly important regarding early information on tenders and the selection and provision of local expertise.

***C.L.: You mentioned the "youngest" department at AHT is the Department for Information Technology and Software Development. We live in a world where digitalisation is everywhere, in our daily lives and at work. How is digitalisation being experienced within development work? Can you tell us a little bit about AHTs work in this area?***

H.S.: AHT has been working with digitisation and information technology since its foundation. The pioneer in this area was Dr. Günther Keser, who recognised the advantages of digitisation at a very early stage and made sure that AHT invested in these areas. Great examples of this are the development of the nationwide, digital water management framework plans for Tunisia, Jordan and Macedonia in the '90s. A real breakthrough happened in 2015 when the IT Department was converted from an internal service department to a technical department, which independently carries out operational projects. Under the direction of Thorsten Kisner, we have been able to develop specific "tailor-made" IT solutions for our clients in the projects. Most of these are developed using "open source software", meaning the client doesn't need to pay license fees. The IT Department is also responsible for the management of all digital processes in the head office and in the projects, and the specialists of the department are



*For me, working for the AHT GROUP means working in a supportive, creative environment, where co-workers pool resources and effort to find solutions to the challenges each new contract brings. The flat hierarchy and approachability of all the colleagues makes for a real team spirit where everybody has the chance build upon their skills and develop their knowledge in their specialist fields. It has a very special atmosphere.*

*Patrick Bracken, IWRM Expert*

*Working with AHT offers me the opportunity to be a part of the efforts which seek to make the world a better place. Through our projects, I feel that I can contribute to protecting the environment without losing sight of the human element. AHT also offers me exposure to a variety of environmental and socio-cultural contexts and allows me to work with diverse teams; this in turn, offers me a unique chance to grow and evolve as a person too. The fact that at AHT, we enjoy a very friendly and supportive atmosphere makes coming into the office a pleasure and something to look forward to.*



*Rania Taha IWRM Expert*

currently working on developing an Enterprise Resources Planning (ERP) system for internal use, which is specifically adapted to the needs of a consulting company. Particularly during the Corona crisis, we've really grown to appreciate the strengths of our IT Department, as their quick action allowed us to continue our daily business even through shutdown without any major frictional losses.

***C.L.: How do you see the future of AHT GROUP?***

H.S.: I think the AHT is very well equipped to face the future. The implementation of the previously mentioned strategies we've developed have led to a strong economic and financial development in recent years. With our current technical departments, we are well placed to address the major topics of development cooperation and, with the RSBG as owner, we have a strong partner at our side.

***C.L.: Dr. Schneider, thank you for your time.***

The interview was conducted by Catherine Lieberei, Head of Business Development and Marketing at AHT GROUP GmbH, in April 2020, edited in December 2020 for the use in this newsletter.

*Working for AHT means for me to be a part of a highly qualified organisation, able to develop and implement complex and performing projects, where human aspects and technical competences are valorised and integrated in order to motivate and bring out the best in each of us.*



*Mathias Bazzano,  
Senior Expert Water Resources  
Management and Irrigation*

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