Thinking Beyond: A Note from the ICH Chairman

Dear ICH Friends,

For 24 years, ICH has been a go-to for hydropower professionals seeking to update and advance their skills. ICH is a leader in hydropower trainings across Europe, Asia, Africa and Latin-America, providing innovative curricula that has grown from the first two courses in Norway in 1995 to 38 annual courses in 2018. During that same period, the scope and content of the courses has broadened. ICH’s focus on technical trainings has been developed into a breadth of topics including financial and legal matters, environmental and social corporate responsibilities, and achieve gender equity. ICH’s goal became to not only train professionals but lead in discussion on sustainability. With many hydropower plants ageing across the world and new technologies being developed, ICH recognises the need to increase its focus on operation and maintenance. Today, it is well known that ICH is a responsible training institution that covers all educational aspects related to sustainable hydropower development.

Climate change is a growing problem around the world, and will increasingly affect the hydropower industry. More attention must be focused on hydrology as runoff patterns change. As design floods shift, risk analyses must be carried out.

There is an increasing demand on reporting and result monitoring, and, during the last year, in close cooperation with Norad, our main funder, ICH completed a new monitoring and reporting system, along with a revision of the strategy. This is, however, an ongoing process that will need to be followed closely.

This year’s theme is partnerships. ICH would not have been able to carry out our extensive course programme without our partners. Our partners provide us with invaluable expertise, local assistance, and knowledge. On the other hand, we hope that our partners get value from their contributions through such benefits as the access to the ICH network of alumni and experts. The ICH partnership network extends throughout the world, and we are constantly looking for new partners!

As we maintain positive cooperation with all members and partners, and with continued trust from ICH’s funders, I foresee a future where hydropower development will be more sustainable.

Kjell Repp
Chairman of the Board of Directors

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The core purpose of ICH is to raise the standards of competency in the hydropower sector through training programmes, workshops and seminars, as well as to promote the sustainable development of hydropower resources and water governance.

**Vision**

The vision of ICH is to convey knowledge on the sustainable development of renewable energy, with emphasis on hydropower, both nationally and internationally and in accordance with the prevailing political guidelines for Norwegian policy on international development.

**Mission**

To develop and implement training and capacity building activities in renewable energy with an emphasis on hydropower

To collaborate with key Norwegian partners for effective implementation of the government’s commitment to clean energy in development, and to strengthen networks between the public and private sectors to mutually benefit members and the implementation of ICH activities

To contribute to institution building and improved management through the dissemination of knowledge on hydropower and other renewable energy sources

To provide high quality international services to Norwegian and foreign partners in courses and conferences that are in line with current guidelines for Norwegian development assistance activities

**In Focus:**

**ICH Works to Improve Gender Equity in Hydropower**

Did you know women only make up 35% of the renewable energy workforce? Further, only 32% of the female workforce are managers. ICH, in partnership with IFC, Norad, the Australian Government, and UNESCO are teaming up to raise awareness of the benefits of gender diversity in hydropower.

75% of ICH’s Secretariat is led by women in the hydropower sector. Women consult and provide feedback on our courses to ensure we are considering the complexities of gender diversity in all of our work. To learn more about our courses on gender and hydropower, visit our Facebook page or website: www.ich.no

**About ICH**

The total capacity of the secretariat was four in 2018. Additionally, capacity was supplemented by the outsourcing of services including accounting, ICT and other administrative services.

**Meet the Board**

ICH held four board meetings in 2018, addressing a range of issues regarding the strategic direction and progress of ICH. Key issues included results monitoring, strategy for the period 2019 – 2025, and the Norad mid-term evaluation.

The 2016–2020 Election Committee comprises:

- Odd K. Ystgaard, Norconsult AS (Chair)
- Øivind Johansen, OED (Ministry of Petroleum and Energy)
- Kjell Erik Stensby, NVE (The Norwegian Water Resources and Energy Directorate)

ICH’s Scientific Committee was established in 2010 and helps to ensure the quality of both new and existing courses. It also participates in the evaluation of ICH’s activities and proposes new ones. The Committee provides valuable input for strategic planning. The Committee is called upon by ICH’s Managing Director and consists of the following ICH members:

- Meg Bishwakarma, Hydro Lab, Nepal
- Ole Gunnar Dalhaug, NTNU, Norway
- Pål Haberg, Statkraft, Norway
- Vegard Willumsen, NVE, Norway

**The Secretariat**

Line Amlund Hagen
Managing Director

Laura Bull
Head of Studies and Latin America

Tom Solberg
Project Director

Carole Rosenlund
Head of Africa

The total capacity of the secretariat was four in 2018. Additionally, capacity was supplemented by the outsourcing of services including accounting, ICT and other administrative services.
Why Working Together is Better: Our Partnership Model

In 2018 we focused on fortifying and growing our partnerships across the globe. This year our active partnerships include:

- Statkraft
- Uganda Electricity Generation Company Ltd, UEGCL
- East African Centre of Excellence for Renewable Energy and Efficiency, EACREEE
- Kafue Gorge Regional Training Centre, KGRTC
- Volta River Authority, VRA
- Independent Power Producers' Association - Nepal

At ICH we believe that raising environmental and social standards in the renewable energy industry begins by sharing and learning from others' experiences. A multitude of international standards and criteria exist; ICH's role is to bring our partners together in the field and the classroom to share their experiences and expertise with practitioners working in the right direction together is how our partnerships sustain over time.

**1. Understanding start the triple bottom line**

Our partners share the same vision: more sustainable and renewable energy that is equitable for all stakeholders. Our shared vision to achieve environmental and social sustainability in the renewable energy sector is the thread that binds our values. Because of this shared vision, we are able to promote each other's work, increase our market visibility, and take the lead as partners on issues that matter.

Our understanding that every business should have a triple bottom line is where each of our partnerships start; our combined efforts to to ensure we are working in the right direction together is how our partnerships sustain over time.

2. Adding value to the portfolio

We want to ensure that each partner contributes to the other's portfolio reciprocally contribute to each other's portfolio. Whereas our work at ICH should complement our partners', it should not duplicate as our aim is to create value together. We plan our courses jointly, develop the concept together, and present the topics together. This collaborative spirit helps strengthen our course delivery and encourages our partners to find new ways to approach their work, as we do the same.

ICH creates opportunity for partner organisations to present their work, gain visibility, and build a reputation for having positive impact by engaging communities, positive impact engaging communities, operating sustainably, and committing to policy compliance.

3. Gaining trust

Trust is a key ingredient in any partnership. As we see through our work in the hydropower sector, projects experience delay without trust from all stakeholders. By building partnerships based on trust, we are setting a precedent for the work we do and the organisations we choose to work with. As partners, we benefit from our mutual trust. The companies and organisations we work with will likewise have the opportunity to build relationships with local practitioners, government and civil society as a trusted ICH partner. In return, our partners gain stakeholder confidence and are able to more effectively achieve their business objectives.

In this year’s ICH Annual Report, we introduce some of our partnerships and share how we have benefited from working together with ICH over the years.
ICH Courses in 2018

Norway
Due Diligence for Hydropower and Renewable Energy Projects
April 16 – 20, 2018
Prevention and Administration of Social and Environmental Conflicts
May 28 – June 1, 2018
Hydropower, Renewable Energies and the Environment
August 20 – September 6, 2018
Risk Management in Hydropower Development
October 22 – 27, 2018

AFRICA
Regional Power Trade Programme - West Africa
Ivory Coast / April 16 – 20, 2018
The Process of Social Impact Assessment in Hydropower Projects
Ghana / November 5 – 9, 2018
Turbine Governor Principles & Waterway Dynamics
PART 1 Online course
PART 2 Workshop Zambia
Zambia / October 22 – 26, 2018
Environmental Compliance Assessment in Renewable Energy Projects
South Africa / October 15 – 19, 2018
Dam Safety Management for Sustainable Hydropower in Africa
Ethiopia / October 1- 5, 2018
Policy Formulation for the Energy Sector
Malawi / November 12 - 16, 2018
The African Power Market Concept - Operation and Opportunities – East Africa
Ethiopia / April 11 - 13, 2018
Revenue Protection Management and Prevention of Vandalism
Mozambique / July 30 - August 4, 2018
Operation and Maintenance of Small-Scale Hydropower Plants
Tanzania / November 20-30, 2018
Small Hydropower Financing and Project Economy
Rwanda / 11 – 14 December 2018

ASIA
Hydropower Finance and Project Economy
Myanmar / January 24-25, 2018
Procurement and Project Implementation
Myanmar / November 12-16, 2018
SEA Regional Course - Gender
Myanmar / March 19-23, 2018
Stakeholder Management II Conflict Transformation
Myanmar / October 17-19, 2018
Agreements - PPA/PDA
Cambodia / April 9-11, 2018
Operation & Maintenance
Cambodia / October 17-20, 2018
Procurement and Project Implementation
Bhutan / April 9-13, 2018
Strategic Operation & Maintenance
Bhutan / May 7-11, 2018

Hydropower Implementation - Procurement & Contract Management
Nepal / September 24-28, 2018
Sediment Workshop (Hydrolab)
Nepal / October 2-8, 2018
Turbine Lab Conference
Nepal / March 20-21, 2018
Hydropower Financing and Risk Management
Nepal / November 26-30, 2018
Energy Development Council Investment Summit
Nepal / January 27-29, 2018

LATIN AMERICA
Stakeholder Management and Renewable Energy Projects
Honduras / February 19-23, 2018
Cumulative Impacts and Sedimentation Management
Colombia / June 18-22, 2018
Strategic Operation and Maintenance – Dam Safety
Argentina / June 25-30, 2018
Sedimentation Workshop
Colombia / November 12-13, 2018
Regional Trading Programme: Andean
Colombia / November 14-16, 2018
Stakeholder Management in Renewable Energy
Chile / November 23-24, 2018
#ICH Impact 2018

Who we trained:

- Burundi: 0 courses
- India: 1 course
- Ivory Coast: 3 courses
- Laos: 1 course
- Sri Lanka: 1 course
- Thailand: 1 course
- Uruguay: 1 course
- Zimbabwe: 2 courses
- Bolivia: 5 courses
- Brazil: 2 courses
- Gambia: 2 courses
- Kenya: 4 courses
- Argentina: 3 courses
- Guatemala: 1 course
- Indonesia: 1 course
- United States: 1 course
- Ivory Coast: 6 courses
- South Africa: 1 course
- Philippines: 1 course
- Sierra Leone: 3 courses
- Swaziland: 1 course
- Pakistan: 1 course
- Costa Rica: 3 courses
- Zambia: 7 courses
- Ecuador: 3 courses
- Malawi: 1 course
- Ghana: 5 courses
- Cambodia: 6 courses
- Bhutan: 11 courses
- Colombia: 23 courses
- Uganda: 162 courses
- Myanmar: 46 courses
- Nepal: 169 courses

Impacts:
- Applicants: 1,632
- Participants: 876
- Women: 216
- Men: 660
- Norad sponsored: 677
- Self-funded: 199

Participant Affiliation:
- Government: 241
- State owned utility: 295
- Research: 36
- Private company: 233
- International organisation: 11
- NGO: 25

Course venues and home country

Courses
- 4 courses
- 5 courses
- 3 courses
- 2 courses
- 1 course
- 1 course
- 1 course
- 1 course
Leveraging the Power of Partnerships

As we see from ICH’s work in 2018, the courses the organisation embarked on drew on the competence and collaboration of its partners. These mutually beneficial partnerships add value to the experience of ICH’s course participants as they gain from the expertise of practitioners and leading thinkers in the field of hydropower and renewable energy.

Having strategic partners on the ground helps ICH better understand pressing issues that need to be addressed, which are often location specific. ICH’s partnerships are also an opportunity for local counterparts to better understand the trends and technologies used by Norway, which helps them improve their long-term and keeps them ahead of the game.

In many parts of the world, ICH partners contribute ‘in-kind’ support. In-kind contributions greatly increase ownership and participation in course planning and implementation, adding onto the actual monetary sponsorship. In some cases, this support given can contribute over 50 percent of the total cost of running an activity.

"By joining ICH, we have become part of the most extensive global network of hydropower stakeholders. Our partnership provides an international audience for our training programmes and makes our Academy visible."

Eric Mensah Bonsu
Chief Learning Officer
Volta River Authority Academy, Ghana

**Partnership Highlight: GHANA**

**Volta River Authority (VRA) Academy**

"ICH provides a strong, credible voice for the power sector and for the role of hydropower in the future at national, regional and international forums and we are privileged to be part of the success," explains Eric Mensah Bonsu, Chief Learning Officer, Volta River Authority Academy.

The Volta River Authority (VRA) is a wholly owned state utility with an installed generation capacity of 2,332.5 MW from the Akosombo and Kpong Generating Stations, both located on the Volta River with 1,020 MW and 160 MW respectively. With a compliment of 2.5MW, Solar PV Plant located at Navrongo accounts for 50.7% of the VRA’s total installed generation capacity. The VRA also owns a number of thermal plants with a capacity of 1,150MW that contribute to 49.7 % of generation capacity.

The VRA Academy is the training wing of VRA. It offers a platform for structured and systematic learning and development pathways for staff of VRA as well as staff of power utility companies in West Africa and beyond.

VRA and ICH have been in partnership together since the mid-2000s. Through that partnership, VRA trainers have had the opportunity to participate in conferences and training sessions with ICH.

"As a result of our partnership with ICH, our trainers have boosted their confidence, delivering improved trainings to our local and external participants."

"Additionally, our partnership with ICH has created a pool of network opportunities and has overall improved trainer performance."

VRA Academy also supports ICH training programmes in Ghana by providing training facilities and guesthouses to host international delegates.

"By joining ICH, we have become part of the most extensive global network of hydropower stakeholders. Our partnership provides an international audience for our training programmes and makes our Academy visible."

Learn more about VRA Academy at: www.vraacademy.com.

**Partnership Highlight: NORWAY**

**Statkraft**

"As Norway's biggest generator, we feel close to the customer side of ICH," says Tron Engebrethsen, Senior Vice President at Statkraft.

Statkraft has been a partner of ICH since the beginning. In the early 1980s, the company conceived of operating hydropower plants outside of Norway, and then the following decade Statkraft began operations in Lao PDR and Nepal. "We proved to ourselves during this time that we were at the forefront of international energy management, operations and maintenance."

The benefits ICH and Statkraft's partnership is reciprocal; as described by Engebrethsen, ICH benefits from the experience and expertise of Statkraft staff who participate in workshops on a regular basis. Statkraft in return shares their knowledge on project planning, implementation, and operations. ICH also benefits from tours of Statkraft operations in Norway where participants are shown operations, watershed management, and environmental management aspects.

"Many Statkraft employees are able to attend ICH courses to foster their development and improve performance. ICH has tailored courses to Statkraft's specific needs, such as the 'Conflict Transformation' workshops in Chile," Engebrethsen adds.

Statkraft also benefits from the partnerships in a number of ways. By partnering with ICH, Statkraft lecturers meet a range of participants from around the world, including countries where Statkraft operates and invests. The company also considers it a recognition for their employees to lecture in ICH courses.

"This collaboration produces mutual benefits and allows Statkraft to promote sustainability and high standards in hydropower internationally."
Partnership Highlight: ARGENTINA

Dams Safety Regulatory Agency of Argentina (ORSEP)

In addition to partnering with capacity building institutions and the private sector, ICH works closely with dam regulators and governments to promote more sustainable operations that ensure stakeholder participation. Those affected by hydropower development, such as indigenous communities, are included in the dialogue process.

A partner with ICH since the mid-2000s, Argentina's Preservation Safety Regulatory Agency (ORSEP) was established as a decentralised entity of the state as the enforcement authority in matters of regulation of the structural and operational safety of dams.

“Partnering with ICH supports our efforts to engage stakeholders living downstream of hydropower plants that could be exposed to risk,” says Ricardo Paramos, change to: Dams Safety Regulatory Agency of Argentina (ORSEP).

Dams in Argentina supply 27% of all the country’s electricity demand, supply irrigation to 1 million hectares and protect 4 million inhabitants from flooding.

“Our goal is to protect the population and safeguard federal heritage. Together with ICH we provide technical assistance to provincial states, organisations and municipalities,” explains Paramos.

“Working together with ICH raises our awareness of international best practices in our industry and helps us achieve compliance.”

ICH partners offer support in many ways. Here is a snapshot of how we are working together with some of our partners in Asia:

**Bhutan**
- DGPC, Druk Green Power Corporation, is Bhutan’s state-owned utility. Since 2012 DGPC has supported ICH’s training programmes through logistics, accommodation, and hosting field trips at the power plants.
- Department of Hydropower and Power Systems (DHPS) under the Ministry of Economic Affairs, is the Government agency committed to promoting sustainable hydropower in Bhutan and has also been a partner to ICH over the last seven years.

**Cambodia**
- ICH has supported training of the energy sector over the last four years with Electricité du Cambodge (EDC), the state-owned electricity utility in Cambodia. Annual courses and a study trip to Norway for the top management of EDC have been held. EDC supports ICH with excellent facilities to host courses and support logistics and meals.
- The Institute of Electrical Science (IES), is an academic institution formerly known as the EDC training centre. The IES also have convenient course facilities in Phnom Penh which are provided free of charge.

**Indonesia**
- The Perusahaan Listrik Negara (PLN), is the state-owned electricity utility company and is the main generator in the country. In 2014 ICH arranged two short courses (two to three days) at the Corporate University at Makassar, as well as a one-day high-level workshop in Jakarta. In 2017 ICH arranged a one-week programme on Sustainable Energy Management at PLN’s Cirata power plant on Java. As a partner, PLN provides resource persons, accommodation, logistics support, and meals.
- IFC is a key partner for ICH’s work in Myanmar. ICH and IFC with the support from Norad have been working to improve gender equity in hydropower development and management, and strengthen environmental and social governance.

**Nepal**
- Established with support from Norway, the Independent Power Producers’ Association Nepal (IPPN), is an umbrella organisation for independent producers in Nepal. ICH has worked in cooperation with IPPAN from the beginning, averaging one training event per year.
- International Finance Corporation (IFC), is the World Bank Group’s organisation for financing private sector development in emerging economies. In Nepal, ICH and IFC of co-organise events, often with IPPAN as a partner.
- Hydrolab serves the Hydropower industry in Nepal and South Asia. Established with the help from Norway’s technical university (NTNU) and support from Norad, ICH also supported the establishment of the laboratory. ICH holds a sediment workshop in cooperation with Hydrolab about every two years, focusing on the life-cycle of Hydropower Development.
- EDC, Energy Development Council, is an umbrella organisation for the whole energy sector of Nepal, state owned and private. ICH has organised small training workshops as a part of EDC’s investment summits, and week-long training on Hydropower Financing and Risk Management, aiming to stimulate investments in hydropower.
**Partnership Highlight: COLOMBIA**

**Empresas Públicas de Medellín (EPM)**

For over a decade, EPM has partnered with ICH in Colombia. Their partnership, as described by EPM’s Ana Maria Sandoval, Indigenous Relations Manager, has improved their impact on the ground to better engage stakeholders and raise awareness to indigenous peoples’ rights and participation in the hydropower planning process.

“EPM’s partnership has evolved over the past 10 years. What started out as an opportunity to train hydropower professionals from Colombia has transformed into an opportunity to co-organise international events and demonstrate how Colombia is working to achieve greater sustainability in the renewables industry.”

In 2018, EPM joined ICH with partner IFC in Myanmar to share their experiences working with rural communities in complex and fragile environments.

“Although worlds apart, there are so many lessons that Myanmar could learn from Colombia,” said Sandoval. “Both countries are very diverse and need greater stakeholder participation. This is exactly the type of international exchange needed to ensure communities are better engaged and that the rights of indigenous people are considered in the consultation process. We need more of this type of partnership to make a real difference in the hydropower sector.”

**Partnership Highlight: COSTA RICA**

**Costa Rican Institute of Electricity (ICE)**

“Our company’s greatest asset is to nurture the learning and growth – this is our permanent task, which is best achieved through partnerships,” said Víquez Camacho Miguel, Director, Environmental Planning, Costa Rican Institute of Electricity. “Working with ICH helps us keep our staff up-to-date, which is a key component to sustainability.”

The Costa Rican Institute of Electricity (ICE) contributes to the national development plan by supporting the advancement of access to electricity. In the 1990s the organisation was in search of others with similar values and a common goal of achieving sustainability in the hydropower sector. ICH and ICE’s relationship began with the training of their staff by the Norwegian partner.

Three decades later, ICH and ICE have trained more than 100 people on technical, economic, environmental, and legal issues. ICE and ICH together have trained all levels of professionals in Costa Rica, including the current president of the ICE group.

“Over the years we have become part of the ICH family,” said Miguel. “We are now co-hosts of events, leveraging the strengths of each of our organisations. It is from there at our events we facilitate greater participation and promote inclusive participation of other stakeholders in the renewable energy sector. Our partnerships lead to other organisations adapting ICE and ICH’s vision of environmental, social and financial sustainability.”
In 2018, ICH embraced the opportunity to share the Norwegian values of equality and respect with participants from corners of the world where hydropower development is challenged by conflict, issues of human rights, and poor governance. By hosting diverse course participants to Norway, they learned first-hand the Norwegian principles that drive transparency, good governance, and innovation. Course participants then travel back to their countries to share learnings and integrate their courses into their daily work – strengthening operations in hydropower and promote more sustainable practices.

Since its inception, ICH has collaborated with partners to explore efficiency in operation, security and business competitiveness. When participants study in Norway with ICH, they benefit from field visits to hydropower facilities, officer tours, and expert knowledge all offered by ICH partners. It is the ICH partner knowledge sharing experience that makes ICH course unique.

As Norway’s 2018 strategy on renewable energy illustrates, energy systems will undergo radical changes in the years ahead. Course offerings this year aimed to align to Norway’s 2018 strategy, while addressing the challenges on the ground in the countries where the organisation works.

Tron Engebrethsen
Senior Vice President, Statkraft

“We must continue to develop our skills in planning and construction to be sure that hydropower plants are built and refurbished, taking modern aspects of sustainability into account. We must perform good international practices. If measured with the IHA Sustainability Protocol, we have to come out as sustainable. Working together with our industry partners will help us achieve the best results.”

Norway

2018 HIGHLIGHTS

Due Diligence for Hydropower and Renewable Energy Projects
April 16 - 20, 2018
Through improved understanding of the due diligence process over the life cycle of renewable energy projects, course participants were able to better identify, prevent, and mitigate socio-environmental risks. With their new knowledge of international good practice policy, participants could better avoid risk and improve communication to key stakeholders including decision makers and financiers.

Prevention and Administration of Social and Environmental Conflicts
May 28 - June 1, 2018
In 2018, this pilot course stretched the boundaries of understanding and best practice management of socio-environmental conflicts, aiming to positively impact how public participation is conducted in conflict areas. Participants successfully identified, managed, and transformed conflict situations through course simulations, and increased their understanding of stakeholder relations.

Hydropower, Renewable Energies and the Environment
August 20 - September 6, 2018
In this course, participants hailed from diverse backgrounds and disciplines including engineering, environmental, and social professions. Participants gained a balanced perspective of technical and legal frameworks as well as environmental and social requirements of the permitting process. Discussions focused on environmental flows, sedimentation and erosion control as well as environmental impacts and the social issues around the aspects of health, resettlement, and indigenous peoples. Experts joined and provided technical tours of hydropower facilities in Norway, as well as the offices of NVE and Statkraft.

Risk Management in Hydropower Development
October 22 - 27, 2018
In this course, participants learned about risk management from the standpoint of sustainability frameworks, including environmental and social risks as well as particular concerns around occupational health and safety, compliance, and operational and technical risks. Through sustainability risk evaluation, triple bottom lines were evaluated to help participants understand how to achieve social, financial, and environmental sustainability.

[Images and additional text about course descriptions and participants]

For approaching, managing, and transforming conflicts. Real-life examples were drawn on from Chile and the Philippines to better understand the experience of indigenous peoples with energy development.
Partnership Highlight: ZAMBIA

Kafue Gorge Regional Training Centre (KGRTC)

“Our role is to help ICH identify the topical issues facing the energy sector across the African continent. ICH then helps us frame solutions in the courses we conduct jointly with experts in the field of sustainable hydropower,” explains Brian Makungo, Head of Training and Consultancy, KGRTC based in Zambia. In 2004, ICH and KGRTC took on their first joint project: a regional workshop on water hyacinth and siltation in reservoirs. This regional workshop discussed the pressing issue of invasive species such as the water hyacinth and how it was degrading the ecological systems of rivers and dams, leading to siltation and flooding. This serious issue resulted in KGRTC bringing regional experts to the table and thinking through solutions that would help control the situation.

“Partnerships help find solutions for challenges that extend beyond one’s own border.” Since the start, KGRTC and ICH’s work together has blossomed. The two organisations have been jointly conducting courses to have maximum impact on the sustainable development of hydropower across Africa. Together, ICH and KGRTC have developed content for courses on topics including utility revenue protection management, prevention of vandalism, environmental compliance, and standardising the electricity supply chain.

As reported by Makungo, “Our partnership with ICH has helped build the capacity of our lecturers and KGRTC, having a long-lasting impact on our organisation.” The two organisations’ work extends beyond the classroom to support a shift in thinking among decision makers in Africa: a platform has been developed for African utilities to benchmark best practices in electricity metering. “This success can only be attributed to the mutual efforts and zest for collaboration that exists between ICH and KGRTC.”

Learn more about KGRTC’s work: www.kgrtc.org.zm

Brian Makungo
Head of Training and Consultancy, KGRTC

ICH Annual Report 2018 Gaining through Training
Learning how our Norwegian partners strategically plan and sustainably operate and maintain hydropower plants is very valuable for Bhutan. Our learning and exchange balances technical and engineering matters with our overarching shared goal of achieving more sustainable renewable energy.

**2018 HIGHLIGHTS**

**Hydropower Finance and Project Economy**

Myanmar / January 24-25, 2018

Tailored specifically for Myanmar, participants from the Ministry of Electricity and Energy (MOEE) focused on conducting financial evaluations, including financial versus economic analyses, economic evaluation of environmental impacts of hydropower plants, hydropower financing, cost estimating, budgeting, costing, and tariffs.

**Procurement and Project Implementation**

Myanmar / November 12-16, 2018

Tailored specifically for Myanmar, participants from the Ministry of Electricity and Energy (MOEE) focused on procurement and project implementation.

**Turbine Testing Lab Mini-course**

Nepal / March 20-21, 2018

The training was tailored for the Nepal situation, and formed a part of a series of annual programmes in Nepal within the same overall topic (Hydropower and Turbine technology issues in Hydropower Development).

**EDC Investment Summit Mini-course**

Nepal / January 27-28, 2019

The course was held in Kathmandu and consisted of two parts: Part one covered Hydropower Financing and Risk Management, and had 26 participants from different organisations involved in Hydropower Development and Operation, from private, public, and educational sectors. Part two covered Sustainable Energy Development and the Role of Hydropower.

**SEA Regional Course - Gender**

Myanmar / March 19-23, 2018

This course challenged the hydropower sector to consider women as agents of change, as there is room for women to be engaged as leaders and employees, suppliers and stakeholders. Participants learned how to implement the G2P Action Plan to enhance the adoption of international policy frameworks and standards into local approaches.

**Hydropower Procurement and Project Implementation**

Bhutan / April 9-13, 2018

Participants in this course from Druk Green Power Corporation and the Ministry of Economic Affairs reviewed procurement procedures and contract management, as well as the use of FIDIC framework of agreements in the construction of hydropower projects in Bhutan.

**Hydropower Agreements - PPA/PDA**

Cambodia / April 8-11, 2018

The focus of this course is relevant agreements for the hydropower sector, as well as financial evaluation, including financial vs. economic analyses. Hands-on exercises using example models were also included.

**Strategic Operations and Maintenance**

Bhutan / May 7-11, 2018

The focus of this course was the use of strategic planning and execution of operation and maintenance in hydropower plants to maximise operation. Both mechanical and electrical components were covered, as well as sections on HSE.

**Stakeholder Management II Conflict Transformation**

Myanmar / October 17-19, 2018

For the past two years, ICH and IFC have joined forces to advance stakeholder and conflict management through a set of courses focusing on mediation and negotiation. This cooperation invited other organisations to observe the course, including Human Rights Watch, the Royal Norwegian Embassy, and the Australian Embassy to increase transparency on the topic.

In this specific course, participants strengthened their understanding of the critical role of meaningful prior public participation and how it contributes to successful project implementation. The course welcomed guest speakers from EPM in Colombia to share their experiences of hydropower and conflict, and how to establish principles and procedures for community participation.

**Hydropower Financing and Risk Management**

Nepal / November 26-30, 2018

The focus was on Financial Evaluation, including Financial vs. Economic Analyses, Economic Evaluation of Environmental impacts of HPPs, Hydropower Financing, Cost Estimating and Budgeting, Risks, costing, and tariffs. Hands-on exercises using example models was also included.

**Strategic Operation & Maintenance**

Cambodia / December 17-20, 2018

With the aim to help hydropower plants maximize operations in Cambodia, this course focused on how to improve strategic planning and the execution of operation and maintenance. Mechanical and electrical components of this subject matter were introduced.
In Latin America, stakeholder management is everything. Consultations with stakeholders require very diverse expertise, which is only possible if you have strong partnerships with the private and public sector. ICH and their partners are subject-matter experts on this. Participants who join their courses feel a greater sense of confidence and are more prepared to engage stakeholders.

Ana Maria Sandoval  
Rural Community Development and Indigenous Relations Management, EPM Colombia

I was very impressed by the presentations by EPM, ISAGEN and CELSIA. Their work demonstrates that they take the subject seriously and are testing new methods while discussing issues with authorities.

Brian Glover  
ICH Lecturer

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### 2018 HIGHLIGHTS

**Stakeholder Management and Renewal Energy Projects**  
Honduras / February 19-23, 2018

I was very impressed by the presentations by EPM, ISAGEN and CELSIA. Their work demonstrates that they take the subject seriously and are testing new methods while discussing issues with authorities.

**Cumulative Impacts and Sedimentation Management**  
Colombia / June 18-22, 2018

Participants gained an understanding of widely used tools for the evaluation and management of cumulative environmental impact and risks associated with hydroelectric projects in Latin America, with a focus on sediment management.

**Dam Safety**  
Argentina / June 25-30, 2018

Participants gained insight on how to promote regulations and achieve compliance in lieu of the UN’s Millennium Development Goals. Participants learned how to strengthen dam safety and lower community risks, manage risks associated with aging dams, and develop action plans, as well as gaining exposure to assessment tools and technology to improve safety.

**New Power Markets**  
Colombia / October 22-27, 2018

In this course, participants gained a better understanding of how the market and regulatory system works, as well as how the price of energy is determined in Norway. Additionally, course participants learned how to better position cooperation, dialogue, and strategic cross-border alliances in the energy sector.

**Specialised Training in Sedimentation Management**  
Colombia / November 12-13, 2018

Participants joined from EPM, CELSIA, ISAGEN, and Colombia’s environmental authorities to better understand the cumulative impacts of hydropower projects on sediments in reservoirs. Course participants exchanged experiences with environmental authorities and learned about legal frameworks and good practices, as well as guidelines that aid the development of sediment management strategies.

**Stakeholder management in Renewable Energy, Mapuche Workshop - a roadmap for renewable energy development**  
Chile / November 23-24, 2018

ICH facilitated the participation of indigenous (Mapuche) leaders from the Lonko Klapang Corporation of the southern Chilean territories in a training course. Hailing from different backgrounds and worldviews, the leaders were tasked with gaining an understanding of the pivotal role that meaningful prior public participation can play in community engagement processes. They were shown how such processes can contribute to inclusiveness and successful implementation of projects (inclusive of the process of FPIC, Free, Prior and Informed Consent).
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