

## HRC's Annual Report on Foreign Affairs in 2019 and Work Plan for 2020

Hangzhou Regional Center (Asia - Pacific) for Small Hydro Power (HRC)

National Research Institute for Rural Electrification (NRIRE)

*In 2019, HRC earnestly studied and implemented Xi Jinping Thought on Socialism with Chinese Characteristics for the New Era and the Spirit of the 19<sup>th</sup> CPC National Congress and its third and fourth plenary sessions of the Central Committee. Under the leadership of the Ministry of Water Resources (MWR) of China and Nanjing Hydraulic Research Institute (NHRI) and according to the Implementation Plan on Cooperation of Energy and Rural Electrification for Countries Involved in the Belt and Road Initiative (BRI), HRC followed the Initiative and actively organized foreign-aid trainings, implemented international scientific and technological cooperation, consolidated the four (4) overseas technology transfer centers, and fully promoted the international capacity cooperation, so the work on foreign affairs scored fruitful results.*

### **I. International Training**

To enhance the foreign-aid human resources development, deepen the South-South Cooperation, and promote exchange and cooperation among developing countries, especially for those along the “Belt and Road” in the fields of clean energy, water



resources, small hydropower and rural electrification, and strengthen mutual understanding and enhance traditional friendship, HRC actively implemented foreign-aid trainings for developing countries. 13 trainings, seminars and workshops were held including 10 foreign-aid trainings and seminars entrusted by China International Development Cooperation Agency and the Ministry of Commerce of China and 3 seminars under the special fund for cooperation with neighboring countries. A total of 376 participants attended the trainings, seminars and workshops, who came from 42 countries, inclusive of Cambodia, Laos, Myanmar, Thailand, Vietnam, Indonesia, the Philippines, Malaysia, Mongolia, Sri Lanka, Lesotho, Ethiopia, Sierra Leone, Nigeria, Mexico, Dominica, Nepal, Namibia, Uzbekistan, Rwanda, Zambia, Ghana, South Africa, Comoros, R. Congo, Cote d'Ivoire, Djibouti, Mali, Guinea, Equatorial Guinea, Morocco, Panama, El Salvador, Venezuela, Botswana, Egypt, DPR Korea, Zimbabwe, Cape Verde, D.R. Congo, Grenada and Lebanon.

For the ten (10) foreign-aid trainings, seminars and workshops for developing countries entrusted by China International Development Cooperation Agency and the Ministry of Commerce of China, the participants came from developing countries of Asia, Africa and Latin America. The training languages included English, French, Russian and Spanish. The training topics covered water resources development & utilization, water resources management, SHP development, medium and small hydropower development & construction, hydropower station operation & management, rural electrification, sustainable development of rural communities, clean energy and so on. Among them, 4 seminars were held for countries along the “Belt



and Road” and developing countries, including 1 ministerial workshop and another 3 seminars respectively for francophone African countries and Latin America & Caribbean countries. Training Course on Hydropower Operation and Management for Zambia was held in Lusaka for the first time, Training Course on Small Hydropower Technology for Rwanda was held in the fifth consecutive year, and the tailor-made bilateral training programs were implemented in China for Namibia and Uzbekistan separately.

Furthermore, 3 training courses under special funds for cooperation with neighboring countries were organized by HRC. They were Seminar on Integrated Water Resources



Management for Senior Officials of Asian Countries, Training Course on SHP Technology for Lancang-Mekong Countries, and Training Course on Construction & Safety

Management of Hydropower and Dam for Lancang-Mekong Countries.

List of Foreign-aid Training Courses in 2019

No.	Project title	Date/Days	No. of countries	No. of attendants
1	Seminar on Integrated Water Resources Management for Senior Officials of Asian Countries	March 14 <sup>th</sup> – March 27 <sup>th</sup> 14 Days	9	31
2	Training Course on SHP Technology for Lancang-Mekong Countries	May 6 <sup>th</sup> – May 30 <sup>th</sup> 25 Days	5	31
3	Training Course on Construction & Safety Management of Hydropower and Dam for Lancang-Mekong Countries	June 13 <sup>th</sup> – June 26 <sup>th</sup> 14 Days	5	33
4	Seminar on Water Resources Management and Ecological Small Hydropower Development for BRI Countries	July 18 <sup>th</sup> – August 7 <sup>th</sup> 21 Days	4	17
5	Seminar on Small Hydropower and Rural Electrification for the Francophone African Countries	August 7 <sup>th</sup> – August 27 <sup>th</sup> 21 Days	8	18
6	Seminar on Water Resources Development & Utilization and Water Environment Conservation	August 7 <sup>th</sup> – August 27 <sup>th</sup> 21 Days	3	16
7	Seminar on Small Hydropower and Sustainable Development of Rural Communities for Developing Countries	September 5 <sup>th</sup> – September 25 <sup>th</sup> 21 Days	8	19

8	Seminar on Electrification Mode Based on Clean Energy for BRI Countries	September 6 <sup>th</sup> – September 26 <sup>th</sup> 21 Days	6	15
9	Ministerial Workshop on Water Resources Management and Development Planning for BRI Countries	October 18 <sup>th</sup> – October 24 <sup>th</sup> 7 Days	8	17
10	Seminar on Water Resources Development and Utilization for Namibia	October 23 <sup>rd</sup> – November 12 <sup>th</sup> 21 Days	1	21
11	Seminar on Hydropower Development and Medium & Small-sized Hydropower Management for Uzbekistan	October 25 <sup>th</sup> – November 13 <sup>th</sup> 20 Days	1	23
12	Training Course on Hydropower Operation and Management for Zambia	November 11 <sup>th</sup> – December 6 <sup>th</sup> 30 Days	1	90
13	Training Course on Small Hydropower Technology for Rwanda	November 15 <sup>th</sup> – December 5 <sup>th</sup> 25 Days	1	45

In 2019, HRC maintained close exchanges and communication with many developing countries through foreign-aid trainings, while continuously expanding exchange channels, focusing on high-level visits and exchanges with other countries. Under the recommendation or witness of the governments, Memorandums of Understanding (MOU) were signed with relevant universities and scientific research institutions to further increase mutual political trust and lay a good foundation for practical technology sharing, project demonstration and technical promotion.

## II. Exchange of Visits

### 1. Important Meetings or Conferences

(1) From May 7<sup>th</sup> to 8<sup>th</sup>, 2019, Sponsored by Department of International Cooperation, Science and Technology of the Ministry of Water Resources (MWR) and co-organized by HRC and Lishui Municipal Government, the International Symposium on Greening and Upgrading Small Hydropower for Eco-environment Restoration, was held in Lishui with success. The symposium was supported by China-Europe Water Platform. It aimed at in-depth exchange and discussion on topics including green standards on SHP, eco-environment restoration and sustainable development of SHP, and sharing the cooperation results between China and Europe regarding SHP policies, standards and technologies with BRI countries. Attendees of the symposium included representatives from BRI countries like Laos, Thailand, Uganda, Guyana, Afghanistan, Pakistan, Nepal, etc., who are working in the field of hydropower and energy and the



participants of Training Course on Small Hydropower Technology for Lancang-Mekong Countries. After the symposium, the Chinese and foreign representatives carried out site investigation to Dayang reservoir, Panxi hydropower station and the river ecological management project in Jinyun county, Lishui city.

(2) From June 4<sup>th</sup> to 5<sup>th</sup>, 2019, the First Special Meeting of the Joint Working Team of Lancang-Mekong Water Cooperation in 2019 was held in Kunming, Yunnan. As a member of the Chinese delegation, Director General Dr. Xu Jincai attended the meeting. Representatives from the six Lancang-Mekong countries had pragmatic and efficient communication and exchanges. The parties fully affirmed the positive progress made in the Lancang-Mekong water cooperation and formulated the joint lead plan for six key areas of cooperation in the *Five-year Action Plan for Lancang-Mekong Water Cooperation (2018-2022)*. The 2019 intended application list of Lancang-Mekong cooperation special fund projects and a preliminary plan for the Lancang-Mekong Ministerial Roundtable on water cooperation were discussed and the *Minutes on the First Special Meeting of the Joint Working Team of Lancang-Mekong Water Cooperation in 2019* and the *Memorandum of Understanding on China Providing the Hydrological Information of Lancang River to the Other Five Member States under the Joint Working Team of Lancang-Mekong Water Cooperation had been signed*.

(3) On July 18<sup>th</sup>, 2019, the summary meeting of the first youth backbones training of the project of National Key R&D Program Strategic International Scientific and Technical Innovation Cooperation called “China-Pakistan Joint R&D Center for Key Technologies of SHP and Rural Electrification”, was held in HRC. Four Pakistani young engineers have finished their half-year research & study in China and presented the training results. They had exchanges on future training mode and contents, and intended to actively promote the follow-up cooperation with HRC.

(4) On July 22<sup>nd</sup>, 2019, Director General Dr. Xu Jincai attended the Symposium Foreign Affairs on Water Resources in Wuhan organized by the Department of International

Cooperation, Science and Technology, MWR. The representatives reported the work of foreign affairs in 2019, and proposed the work ideas on how to implement Xi Jinping's diplomatic thoughts, serve the general tone of the water resources reform and development, and serve the overall foreign policy of the country to dock the Belt and Road Initiative.

(5) On September 6<sup>th</sup>, 2019, Director General Dr. Xu Jincai attended the Workshop on the Belt and Road Joint Laboratory Construction in Beijing organized by China Science and Technology Exchange Center. The topics included the general proposal and arrangement of construction, planning, and development of the joint laboratories, the considerations on the objectives, tasks and mechanisms of construction & operation of the joint laboratories, and the consideration on the construction of the joint laboratories to serve the Belt and Road Initiative. Dr. Xu reported on the construction of the China-Pakistan Joint Laboratory for Small Hydropower under the Belt and Road Initiative.

Moreover, HRC staffs attended the Foreign Affairs Liaison Meeting on Pre-departure Education Material Revision, the 24<sup>th</sup> Annual Meeting of China South-South Cooperation Network, the Foreign Affairs Liaison Training Course of MWR, the Work Exchanges on Foreign-aid Training for the Yangtze River Delta Area, the Working Symposium on Foreign-aid Training in Zhejiang Province, Training Course on Foreign-aid Financial Settlement for Southern Area of China, China-ASEAN Workshop on Flood Control, Drought Relief and Integrated Water Management, and the Forum on Serving the Belt and Road Initiative and Cultivating International Water Talents, etc.

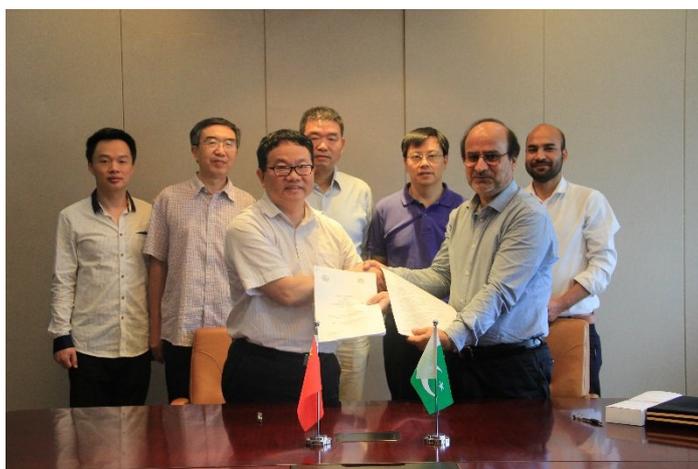
## 2. Foreign Guests Visiting HRC

In 2019, HRC received 5 delegations of 23 foreign guests in total, respectively from Vietnam, Pakistan, Serbia, and the Philippines for technical exchange and project cooperation.

(1) On March 19<sup>th</sup>, 2019, a delegation headed by Mr. Do Ngoc Anh, Deputy Director of Institute for Hydropower and Renewable Energy (IHR) in Vietnam visited HRC for the exchange on implementing the Lancang-Mekong Cooperation Fund Project called “Technology Sharing and Capacity Building on Hydropower and Dam Safety Management in Lancang-Mekong Countries”.

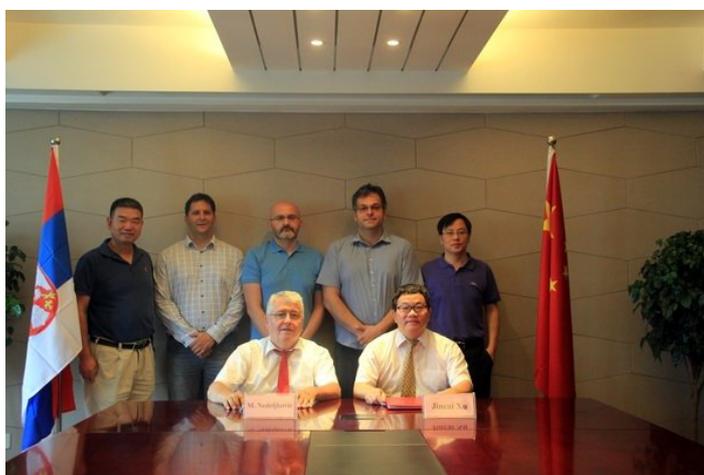
(2) From June 15<sup>th</sup> to 19<sup>th</sup>, 2019, a delegation headed by Dr. Raza Baqer, Director General of Pakistan Council of Renewable Energy Technologies (PCRET), visited HRC and HRC's technical innovation and equipment development & experimental base. Both sides had an in-depth discussion about the ongoing key project of international scientific and technical innovation and cooperation, called “China-Pakistan Joint Research & Development Center for Key Technologies of Small

Hydropower and Rural Electrification”, which reviewed the past achievements. Both sides signed the Memorandum of Understanding which will further promote China-



Pakistan small hydropower technology exchange and cooperation.

(3) From July 1<sup>st</sup>-4<sup>th</sup>, 2019, a 5-person delegation from the University of Belgrade, Serbia visited HRC and HRC's technical innovation and equipment development &

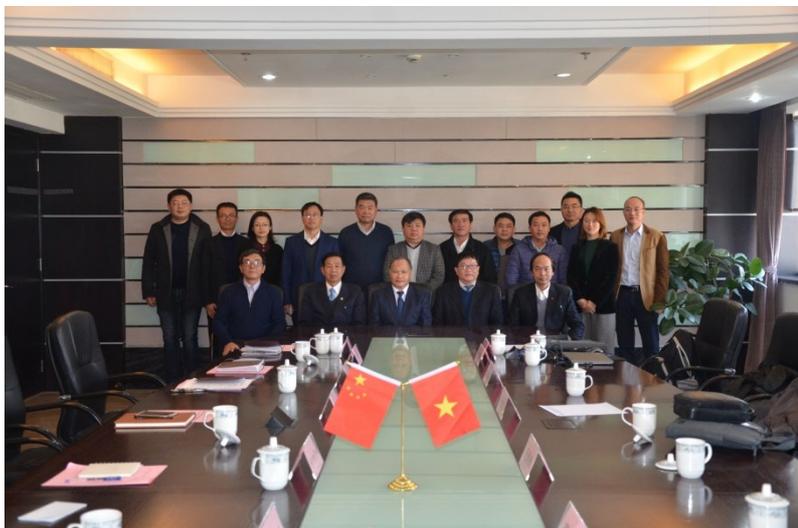


experimental base for renewable energy. Both sides had an in-depth exchange on the ongoing China-Serbia inter-governmental key project for scientific and technological innovation

called “Joint Research on the Development Technology of Low-head Run-of-the-river Hydropower”. Two sides made a conclusion of the preliminary results of the project and reached consensus on the follow-up work.

(4) From July 9<sup>th</sup> to 11<sup>th</sup>, 2019, a 3-member delegation headed by the President of PROCLEAN General Construction & Energy Consultancy and Development Company in the Philippines visited HRC. Both sides discussed the cooperation on the building-up of solar-powered irrigation systems, and the progress and follow-up work of the ongoing China-ASEAN Maritime Cooperation Fund project called “Renewable Energy Assessment and Demonstration for Islands of ASEAN Countries”.

(5) From December 26<sup>th</sup> to 30<sup>th</sup>, 2019, a 11-member delegation headed by Dr. Hoang Van Thang, Chairman of VNCOLD, Vietnam visited HRC. Both sides had in-depth



exchanges and reached cooperation intention on dam and hydropower station safety, ecological hydropower and solar-powered irrigation device.

Accompanied by HRC staffs, the Vietnamese delegation visited the hydropower stations designed by HRC and the equipment R & D and production base of HRC.

### **3. Outbound Visits of HRC**

In 2019, HRC dispatched four (4) delegations of 28 staffs respectively to Vietnam, Austria, Serbia, Zambia, and Rwanda for undertaking international cooperation, foreign-aid trainings, etc.

(1) From May 23<sup>rd</sup> to 24<sup>th</sup> 2019, at the invitation of ASEAN Centre for Energy, HRC staffs attended 26<sup>th</sup> Annual Meeting of ASEAN Renewable Energy Network. The HRC representatives introduced the ongoing China-ASEAN Maritime Cooperation Fund project called “Renewable Energy Assessment and Demonstration for Islands of ASEAN Countries” and presented the cooperation activities on renewable energy in Southeast Asia and the follow-up work. Besides, the HRC delegation communicated with the Executive Director of the ASEAN Center for Energy, exchanged views on

further promoting the cooperation of ASEAN Maritime Cooperation Fund project, and clarified the work scope and the time line.

(2) From October 27<sup>th</sup> to November 3<sup>rd</sup>, 2019, HRC's delegation, headed by DG of HRC Dr. Xu Jincai, visited the University of Natural Resources and Life Sciences of Austria and the University of Belgrade of Serbia,



carrying out exchanges on “Sustainable Hydropower Use and Integration in China and Europe (SHUI-CHE)” project under the China-Europe Water Platform(CEWP) and implementing the National Key R&D Program of China called “Joint Research on the Development Technology of Low-head Run-of-the-river Hydropower”, an inter-governmental cooperation project between China and Serbia.

In Austria, the delegation paid visits to the Nussdorf low-head small hydropower plant, the channel experiment done by the University of Natural Resources and Life Sciences of Austria, the Freudenu low-head hydropower plant, and exchanged deeply with the Austrian counterpart. The major topics included the progress of SHUI-CHE project under CEWP, and the assessment of green ecological restoration for small hydropower (SHP) and the policy compensation mechanism under the background of the SHP greening and rehabilitation in China's Yangtze River Economic Belt, etc. The follow-up work plan was also proposed initially between both sides.

In Serbia, the Seminar on Low-head Small Hydropower Technologies was conducted jointly by HRC and University of Belgrade. 32 representatives from Southeast European countries of Serbia, Montenegro, and Macedonia attended. During the seminar, “China-Serbia Joint Research and Training Center for Small Hydropower” was inaugurated. In addition, HRC delegation visited the laboratory of hydraulic machinery in the University and an irrigation channel on Danube in Kajtasovo, and collected relevant data. Then both sides had an in-depth discussion on the low-head hydraulic turbine simulation, the low-head hydropower development on irrigation channels, as well as the adaptability of SHP technology in southeastern Europe, etc.,



and clarified the respective responsibilities and cooperation contents in the follow-up work.

(3) From November 11<sup>th</sup> to December 6<sup>th</sup>, 2019, HRC

organized Training Course on Hydropower Operation and Management for Zambia at the Sinohydro KGF (Kafue Gorge Lower) site, 100km away from Lusaka, the capital. 75 local staffs working on the site of KGL and 15 participants from ZESCO limited attended the 30-day training. It's the first time for HRC to organize a training course in Zambia, which is the 118<sup>th</sup> training workshop and seminar that HRC has organized to this date.

(4) From November 15<sup>th</sup> to December 5<sup>th</sup>, 2019, HRC organized Training Course on Small Hydropower Technology for Rwanda in Kigali, the capital. 45 participants from



Energy Development Corporation Ltd. (EDCL), University of Rwanda, IPRC KICUKIRO, University of Technology and Arts of Byumba (UTAB), Prime Energy, Rwanda Mountain Tea, etc., attended the 25-day training. It's the fifth training

course that HRC has organized in Rwanda, which is the 119th training workshop and seminar that HRC has organized to this date.

(5) From December 2<sup>nd</sup> to 5<sup>th</sup>, 2019, a delegation headed by Director General Dr. Xu Jincai went to Thailand to organize and participate in the Seminar on Dam Safety Management for Lancang-Mekong Countries. Dr. Xu presented *Hydropower Station Safety and Technology Management*, shared the situation of hydropower development and the status quo and management experience of hydropower safety, and organized the discussion on hydropower and dam safety management cooperation for Lancang-Mekong Countries.

In addition, HRC dispatched experts to join the NHRI delegations respectively to Italy, Sweden, Norway, Laos, Vietnam, Thailand, etc., to carry out international scientific and technological cooperation and exchanges.

#### 4. Information Exchange

HRC edited and published *SHP News* in English, which was shared with over 70 countries, including about 40 countries along the Belt and Road. Besides, the database of training alumni has been updated, and the website released more than 100 pieces of news in Chinese and English. Contributions in Chinese and English have been submitted to Zhejiang Foreign Affairs Yearbook, China SSC Network (journal), and the Training Center of Ministry of Commerce.

### III. International Sci-tech Cooperation and Technical Transfer

1. HRC submitted the achievement report of the China-Pakistan Joint Research Center on Small Hydropower, one of the sci.-tech. foreign-aid projects, inclusive of the promotion and application of



follow-up results; completed the application for the China-Pakistan “Belt and Road” Joint Laboratory of Small Hydropower Technology, which was identified as one of the first 14 “Belt and Road” joint laboratories by the Ministry of Science and Technology; implemented the project of China-Pakistan Joint Research & Development Center on Key Technology of Small Hydropower and Rural Electrification, completed the organization of youth backbones training, the selection of demonstrative site, the visit reception from Pakistan, the arrangement of an interview with Xinhua News Agency on the youth backbones participating in the training, and the conduction of on-site mid-term inspections and annual summary.

2. China-ASEAN Maritime Cooperative Fund Project called “Assessment of Island Renewable Energy and Demonstration of Capacity Cooperation for ASEAN Countries” was carried out. HRC staffs attended the Annual Meeting of ASEAN Renewable Energy Network in Vietnam, introduced the situation of projects cooperation, and had exchanges with ASEAN Energy Center and renewable energy coordinators from ASEAN countries. HRC carried out the selection and confirmation of demonstration site, worked out the technical proposal of demonstration system of Wind-Solar-Water Hybrid Power Generation; completed the project called “China-Indonesia Technology



Transfer Center for Rural Electrification Technology Based on Hydropower”, which laid the foundation for setting up China-ASEAN Technology Transfer Center on Renewable Energy and Rural Electrification. Meanwhile,

HRC participated in the implementation of “Technology Sharing and Capacity Building on Hydropower Station and Dam Safety Management”, dispatched experts to Laos and Vietnam for site investigation, and organized in Thailand the Seminar on Dam Safety Management for Lancang-Mekong Countries.

3. HRC implemented the project called “China-Serbia Joint Research on the Development Technology of Low-head Run-of-the-river Hydropower”, gave warm reception to the delegation from Serbia and discussed the follow-up implementation plan on cooperation. HRC staffs visited Serbia, carrying out the technical exchanges and organizing the Seminar on Technology of Low-head Run-of-the-river Hydropower

with the participation of professionals from Serbia and its neighboring countries. The “China-Serbia Joint Research and Training Center for Small Hydropower” was set up formally, investigation on the demonstrative site was carried out and technical proposal was worked out.

HRC continued to involve himself in the project called “Sustainable Hydropower Use and Integration in China and EU (SHUI-CHE)” under the framework of China-Europe Water Platform (CEWP), conducted comparative study on China-Europe Standard for Green Hydropower Evaluation, translated and compiled books on river ecological restoration, and conducted technical discussion with BOKU University. All the work laid a foundation for the establishment of SHP Technology & Equipment



Development Base for West Asia, East Europe and Caucasian Region.

4. Both Training Course on Small Hydropower Technology in Rwanda and the Training Course on Hydropower Operation and Management in Zambia were held successfully. The number of training participants hit a record high, which further consolidated the foundation for the existing China-Africa Clean Energy & Rural Electrification Technology Transfer, Research and Training Center. HRC actively made the preparation for the establishment of these sub-centers in East Africa, West Africa, Southern Africa and North Africa.

Furthermore, HRC actively carried out strategic research on international cooperation in water and clean energy under the Belt and Road Initiative. Based on the previous research results, the report outlines and specific goals were proposed.

#### **IV. Fully Promoting International Cooperation in Production Capacity**

In 2019, HRC further expanded international cooperation of production capacity from point to area.

1. In Africa: With Kenya as the center, the international cooperation was radiated to countries and regions such as Ghana, Egypt, and D.R. Congo. Site investigation of Nzoia River Basin in Kenya was completed, the upstream and downstream developable resources were identified, and the feasibility study report of hydropower stations was compiled and submitted. Site inspection and evaluation of the cascade hydropower development in Ghana and three rehabilitation projects of hydropower in D.R. Congo were completed. Inspection and evaluation of the photovoltaic pumped storage power station in Egypt were completed with the joint effort of the partner.



2. In Asia-Pacific region: Tara Khola SHP project in Nepal was accomplished, inclusive of the equipment installation instruction, commissioning and trial operation. Site investigation and negotiation on the potential hydropower projects as well as the bidding for rehabilitation projects were carried out. The design contract for a hydropower plant in

Indonesia was signed with the related Indonesian partner. Investigation on the related hydropower projects in the Philippines was conducted and technical proposals were submitted. Three solar pumping



projects of the Department of Agriculture of the Philippine were undertaken by HRC and the on-site construction was about to be completed. A Memorandum of Cooperation and an Implementation Agreement for the demonstration projects of solar water-purification system and solar fertigation system were signed by HRC with the Mindanao Development Agency of the Philippines.

In addition, on-site services for 5 hydropower stations in Turkey were completed, and the on-site installation instruction for Sirvan hydropower project was carried out. The on-site and after-sale services for Tara Khola hydropower project in Nepal was completed.

## **V. Work Plan for Year 2020**

In 2020, HRC shall continue to follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for the New Era, and the ideas of water governance of the central government. According to the Belt and Road Initiative and the South-South Cooperation Initiative, HRC shall actively carry out the following work based on its Implementation Plan on Cooperation of Energy and Rural Electrification for Countries along the Belt and Road.

### **1. To Continue the High-Quality Foreign-Aid Trainings**

(1) To carry out foreign-aid trainings/seminars and share technology and experience with 400 governmental officials and engineers from other developing countries by the way of “Bringing in” and “Going Global”. HRC shall focus on the implementation of seminars for BRI countries, as well as seminars in Rwanda, Nigeria, Cape Verde, Zambia, etc., achieving more high-quality training programs.

(2) To pay more attention on the statistical analysis of training questionnaire as well as the sharing of the country report. HRC shall also fully understand the water resources development strategy, management policy, laws and regulations, standard system, and the bottleneck and obstacle in BRI countries. Based on the data collected over years, Small Hydropower and Rural Electrification Development Report for BRI Countries would be compiled.

(3) To organize the workshop for the HRC Alumni from relevant countries in due time with the signing of Memorandums of Understanding, so as to promote the existing and newly applied international cooperation projects.

(4) To cooperate with large state-owned enterprises for making joint efforts in carrying out training for the staffs of overseas hydropower projects.

### **2. To Sequentially Execute International Scientific and Technological Cooperation Projects and Forward the Construction of Four Overseas Centers**

HRC shall earnestly implement the approved international cooperation projects, actively apply for new projects, and further consolidate the construction of four

overseas centers.

(1) The Construction of “China-Pakistan Joint Research & Development Center on Key Technology of Small Hydropower and Rural Electrification”

HRC shall upgrade the existing laboratory of PCRET, make full preparation for the reception of Pakistani scientists to visit China, promote the implementation of demonstrative projects, writing papers, and the database construction in South Asia. HRC shall also complete the construction of “China-Pakistan Joint Research and Development Center on Key Technology of Small Hydropower and Rural Electrification” on time so that the center could be officially put into operation in Pakistan. HRC will promote the construction of China-Pakistan “Belt and Road” Joint Laboratory of Small Hydropower Technology as well as the implementation of subsequent projects. Combined with the construction of China-Pakistan Economic Corridor and Bangladesh-China-India-Myanmar Economic Corridor, HRC shall carry out extensive cooperation on small hydropower and rural electrification with all the south Asian countries.

(2) The Construction of “China-ASEAN Renewable Energy and Rural Electrification Technology Transfer Center”

HRC shall keep close contact with ASEAN Center for Energy, well implement the project of “Renewable Energy Assessment and Demonstration for Islands of ASEAN Countries”, promote the China-Indonesia cooperation on seawater desalination demonstration with hybrid power generation of wind & solar energy for islands, and

carry out hydropower and dam safety cooperation with Laos, Vietnam, Thailand and other countries along Mekong River, making hydropower and dam safety management a key cooperation area in the “Lancang-Mekong” sub-region. On the basis of the successful implementation of the BRI project in Zhejiang province, HRC shall continue to fully utilize the advantage of being the International Science and Technology Cooperation Base of Zhejiang Province for Renewable Energy and Rural Electrification and shall continuously apply for new international science-technology cooperation projects of Zhejiang province and Ministry of Science and Technology.

(3) To Further Promote the China-Africa Clean Energy and Rural Electrification Technology Transfer, Research and Training Center, and gradually establish the sub-centers in other parts of Africa

Under the cooperation framework of “China-Africa Clean Energy & Rural Electrification Technology Transfer, Research and Training Center”, HRC shall continuously cooperate with Addis Ababa Science and Technology University on disciplinary construction, vocational training and project demonstration. HRC shall also promote the project of South-South Cooperation Fund called “China-Africa Technical Transfer and Capacity Building on Rural Clean Energy”, ensure project cooperation funding and train center operators. At the same time, HRC shall further communicate with relevant cooperative organizations in Rwanda, Cote d'Ivoire, Zimbabwe, Egypt and other countries, sign cooperation agreements, and gradually establish the Sub-centers of Clean Energy & Rural Electrification Technology Transfer, Research and Training in East Africa, West Africa, Southern Africa and North Africa.

(4) Construction of SHP Technology & Equipment Development Base for West Asia, East Europe and Caucasian Region which shall be based on the “China-Serbia Joint Research and Training Center for Small Hydropower”.

HRC shall continue to complete the project of “Joint Research on the Development Technology of Low-head Run-of-the-river Hydropower” and carry out international exchanges, seminars and demonstrations, take part in the project of “Sustainable Hydropower Use and Integration in China and Europe (SHUI-CHE)” under the framework of China-Europe Water Platform (CEWP), conduct comparative study on China-Europe Standard for Green Hydropower Evaluation, carry out a comparative study on the evaluation standards of green hydropower in China and Europe, and gradually expand cooperation with Serbia and other European countries. As a result, the “SHP Technology & Equipment Development Base for West Asia, East Europe and Caucasian Region” would be established.

(5) Relying on the “International Science and Technology Cooperation Base of Zhejiang Province for Renewable Energy and Rural Electrification”, HRC shall apply for the “BRICS Countries” international cooperative projects, the cooperative projects with developed countries, and apply for the International Science and Technology Cooperation Base of China for Renewable Energy and Rural Electrification.

### **3. To Expand International Cooperation on Production Capacity**

While implementing the existing projects with full success and maintaining the relationship with previous project owners, HRC shall make full use of the advantages of training participants in the water and hydropower industry and the convenient

channel to collect and analyze relevant market information for the potential projects, and explore new business opportunities.

HRC shall focus on projects of hydropower engineering design and electromechanical equipment supply in D.R. Congo, the Philippines, Nepal, Indonesia, Ghana and Egypt and promote more concrete cooperation. HRC shall also cooperate with domestic and foreign competent enterprises to improve the capacity of project operation, and investment and financing capability, and get ready to meet the new diversified business modes in the international market. Besides, HRC shall strengthen the cooperation with EPC companies, and jointly explore overseas hydropower projects. Based on the demonstration of solar-powered irrigation systems in the Philippines, HRC would like to make more contribution to building up more projects of solar-powered irrigation system, water purification system, and fertigation system.

#### **4. To Strengthen the Management of International Cooperation Projects and International Communication**

HRC shall further regularize the management of foreign-aid training, international Sci-Tech cooperation, administration on foreign affairs, and reception of foreign guests. HRC shall also constantly improve the construction of policies and systems related to foreign-aid training programs and international cooperation projects. At the same time, HRC shall make full use of the HRC website and two magazines, namely *SMALL HYDRO POWER* in Chinese and *SHP NEWS* in English, the Column of the “Belt and Road” Cooperation on HRC website, HRC's Annual Report on Foreign Affairs, foreign-aid magazines, South-South Cooperation Network magazines, and various channels such as essay submissions and exhibitions to make better voices. HRC will

strengthen communication with domestic and foreign media, plan publicity activities such as exclusive interviews and news reports; make a promotional video, and set up publicity efforts on international cooperation in the field of small hydropower and rural electrification.