CNICIMOD Newsletter

Newsletter of the Chinese Committee on International Centre for Integrated Mountain Development

ICIMOD 30

THREE DECADES FOR MOUNTAINS AND PEOPLE

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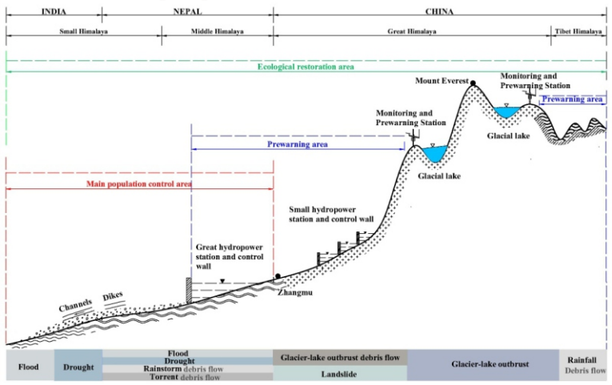
RESEARCH PROGRESS

Progress of Research on Water Hazards in Trans-Boundary Koshi River Basin

The Koshi River is an important tributary of the Ganges that passes through China, Nepal and India. With a basin area of 71,500 km2, the Koshi River has the largest elevation drop in the world (from 8848m of Mt Everest to 60m of the Ganges plain) and covers a broad spectrum of climate, soil, vegetation and socioeconomic zones. The basin suffers from multiple water related hazards including glacier-lake outburst, debris flow, landslide, flood, drought, soil erosion and sedimentation. We describes the characteristics of water hazards in the basin based on the literature review and site investigation covering hydrology, meteorology, geology, geomorphology and socioeconomics. Glacier-lake outbursts are a huge threat to the local population in the region and they usually further trigger landslides and debris flows.

Mitigating measures for the Kosi River water hazards



Floods are usually a result of interaction between man-made hydraulic structures and the natural environment. Debris flows are widespread and occur in clusters. Droughts tend to last over long periods and affect vast areas. Rapid population increase, decline of ecosystem and climate change could further exacerbate various hazards in the region.

Mitigating strategies including international collaboration, integrated water resources management and hazard mitigation, interdisciplinary measures, cascading hazard control measures, education and training were proposed. Mitigating measures for the Koshi River water hazards were established.

Some research results by IMHE team have already been published in peer-reviewed journals such as Natural Hazards and Earth System Sciences, and related policy recommendation report was also accepted by CAS with support from the Australian Government-funded.

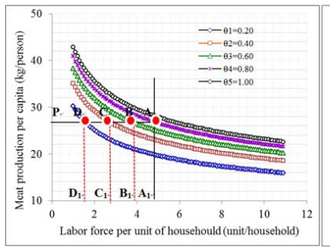
Enhancing Productive Fixed Assets is the Most Effective Adaptation Options of Rural Households in the Tibetan Plateau

Grassland-based animal husbandry is the dominant economic activity on the Qinghai-Tibetan Plateau, and livestock production is the main contributor to livelihood creation for local pastoralists. In recent years, changes in food markets and

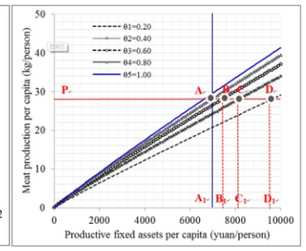
climate variables bring the need to develop livestock production into sharp focus.

In the context of climate change, Yi-ping Fang research team at Institute of Mountain Hazards & Environment, CAS, by using the Cobb-Douglas production function, they defined the per capita meat production of rural households as dependent variable, while the proportion of accumulated precipitation from April to September in annual average precipitation (PCI), the productive fixed assets per capita, the number of labor force per household were considered as independent variables in order to model the relationship between the per capita meat production and the PCI at micro level of household. They confirmed: (i) the per capita meat production of rural households exhibits a high sensitivity to three key variables: the productive fixed assets per capita, the number of labor force per household, and the PCI. It increases by 0.938 and 0.218 times when the productive fixed assets per capita and the PCI increase by one unit respectively. On the contrary, it decreases by 0.268 times when the number of labor force per household engaged in grass-fed livestock sector increases by one unit; (ii) on the basis of parameter estimates and Cobb-Douglas modeling, the losses of meat production due to decrease in the PCI can be offset by increasing productive fixed assets. And a decrease in the labor force engaged in grass-fed livestock sector can help improve the productivity of grassland-based animal husbandry. Therefore, adaptation options of rural households, based on the productive fixed assets and labor productivity, will be most effective in the long term when they are complemented by appropriate public policies such as infrastructure construction, water conservancy project, subsidies of livestock production material, professional training and innovation of pastoralists' perception at different scales.

Adaptation effects of labor force under different PCI (θ) levels



Adaptation effects of productive fixed assets under different PCI (θ) levels



The study was jointly funded by the National Basic Research Program of China (No.2013CBA01808), the National Key Technology R & D Program (No.2014BAC05B01). And the Australian Agency for International Development (AusAID) and the International Centre for Integrated Mountain Development (ICIMOD) are also credited for financial support through the water management and hazard risk reduction policy and institutional analysis in the Koshi river basin. The study result was published in Agricultural and Forest Meteorology.

The original article is available at http://www.sciencedirect.com/science/article/pii/S016819231400269X

Progress of biogeochemistry research on mountain's critical zone by IMHE

Supported by the National Natural Science Foundation of China, Prof. Yanhong Wu and his group from the Institute of Mountain Hazards and Environment (IMHE), CAS achieved a series of progresses in research on biogeochemical cycling of phosphorus (P) and trace metals in mountain's critical zone along altitudinal gradient and proglacial chronosequence in Mt. Gongga, China.

Soil P bioavailability in natural ecosystems is often simultaneously controled by lithology, climate, soil age, soil properties, biological activity etc. The impacts and relative importance of these factors on soil P biogeochemistry along altitudinal gradients are poorly understood. The vertical vegetation and soil zones on high mountains provide an opportunity for clarifying this problem. The research group collected soil and plant samples from seven altitudes (2032-4235 m asl), investigated forms and stocks of soil P and discussed potential mechanisms of variations in P biogeochemical cycling. Results showed that the spatial distributions of total P and organic P clearly exhibited altitudinal variations along the gradient. This pattern was likely influenced by climate, soil erosion, and total P content in the parent material and vegetation type. Significant altitudinal variations of C:N:P ratios in soils were not observed, while the microbial C:N:P ratios in the low altitudes were lower than those in the alpine zones. The concentrations and stocks of available P in the surface soils showed a parabolic pattern with altitude. Soil pH, vegetation, and soil organic matter modulate the spatial distribution patterns of the P forms in the soils. Furthermore, in the 3060-4235 m a.s.l. zone, temperature governs the bio-available P distribution due to its influence on litter decomposition.

The results from the proglacial chronosequence showed that the weathering processes in the Hailuogou Chronosequence can be generally divided into two stages: the first stage was dominated by the weathering of carbonates and was present at sites with an exposure age of ≤ 52 years; the second stage was characterized by the intense weathering of biotite, hornblende and apatite and was present at the 80- and 120-year-old sites. The rapid weathering was a result of the interactions of the lithology, rapid vegetation succession and local climate. The results indicate that the weathering intensity increases with exposure age due to vegetation succession in the early stages of weathering. Compared with other soils with similar age, the rate of soil formation, soil organic matter and soil acidification is faster in the Hailuogou Chronosequence. The P loss rate in the surface soil is fast, e.g., ~17.6% of P was lost at the 120 year-old site, due to rapid weathering, plant uptake and transport by runoff. The migration and transformation of Cd, Pb and Zn in soils are significantly impacted by the adsorption and complexation of soil organic matter.

Moreover, the scientists also reveal the accumulation history of Cd, Pb and Zn since 1880 by sediment record in an alpine lake of the eastern slope of Mt. Gongga. Over 80% of these metals were quantified from anthropogenic emissions since the mid-1990s. The trace metals were probably from Southwest China and South Asia by long-range atmospheric transport.

Based on the recent research above, mountain area shows a marvelous superiority to probe into the Earth Critical Zone (ECZ). The spatial patterns, processes, and mechanisms of biogeochemical cycling of nutrients and trace metals under different climates, vegetation types, and soil formation degrees can be well explored in the limited spaces. In addition, the research on the biogeochemical cycling of P and trace metals in the mountain critical zone reveals its significance for the mountain ecosystems and also the environmental and ecological health in the downstream areas.

These progresses have been published in Catena, Journal of Soils and Sediments, Geoderma, Environmental Science and Pollution Research, PeerJ and

CNICIMOD Newsletter: Volume 9. No.2 April 2016

Chemosphere.

Full text URL:
［1]www.sciencedirect.com/science/article/pii/S0341816216300844

[2]www.live.springer.com/article/10.1007/s11368-015-1200-9

[3]www.sciencedirect.com/science/article/pii/S0016706115301750

[4]https://peerj.com/articles/1377/

[5]http://link.springer.com/article/10.1007%2Fs11356-015-5592-2

[6]www.sciencedirect.com/science/article/pii/S0045653516300418

Mid-Term Review of Kailash Project in China

On April 4, 2016, project mid-term review meeting of Kailash Sacred Landscape Conservation Initiative (KSLCDI) was conducted in the Chengdu Institute of Biology, Chinese Academy of Sciences (CIBCAS). After the meeting, the evaluation experts group went to Pulan County, with elevation of over 4600m, to check the progress in field.

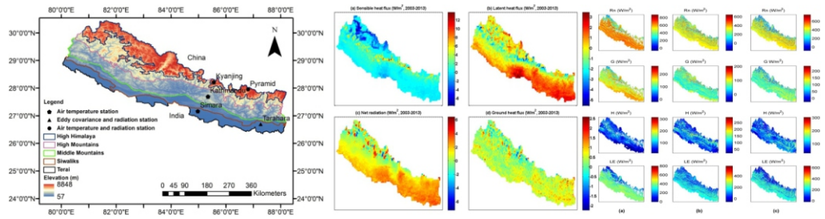
The Mt Kailash sacred landscape (KSL) locates in the trans-border area among China, India and Nepal. It is the water source area of four major rivers in Asia that has very important ecological functions and induced services, but it is also environmentally fragile and very sensitive to climate change impacts due to its geographical and climatic constraints from high altitude, cold and drought. In religions, KSL is commonly revered as the most sacred mountain in Tibetan Buddhism, Hindu, Bon, and Jainism. It is the cradle of tradition Tibetan “xiangxiong” culture, and it is even regarded as the center of universe.

Since the implementation of KSLCDI in 2013, CIBCAS, Sichuan University and other Chinese institutions have organized in series of more than a hundred key stakeholders from Pulan County government, departments, townships and villages to attend training workshops in Chengdu or Lhasa, learning environmental and natural resource management, agricultural production techniques, service in tourism sector, sanitation and habit improvement etc. The workshop participants were also brought for exposure visits to advanced pastoral production and national scenic view area management, which conveyed them tremendous effects of demonstration and thought provoking.

The Chinese project team has helped two villages to revise their existing Village Rules and Regulations to cover environmental (sanitation) and natural resources management. The team also coordinated the formation of natural resource management in three out of ten villages in Pulan County. Besides, KSLCDI project team has made concrete progress in tourism development, environmental assessment, biodiversity conservation and genetic resources protection, and long-term monitoring, in addition to project contribution to the formation of local 13th Five-Year-Plan and heritage tourism planning.

Field Trip Evaluation in Pulan

Mid-term Review Meeting of Kailash Project



Progress of research on earth surface flux in the South Himalaya (Nepal)

There is a popular viewpoint that thermal heating of Qinghai-Tibet Plateau plays an important role in South Asian summer monsoon system. However, some scholars think that convection could develop over the Indian continent thanks to the Himalaya barrier against high latitude cold air, which is the real key point of South Asia summer monsoon formation. Therefore, considering these different viewpoints, it is necessary to conduct further researches on heating effect of Qinghai-Tibet Plateau and its neighboring areas.

Prof. Ma Yaoming's research group (Ph.D student Pukar Man Amatya from Nepal as the first author) calculated the results of surface energy flux distribution and season change regulation from 2003 to 2013 in the South Himalaya Nepal by improved surface energy balance equation ,MODIS satellite material and related ground observation material, and also verification is conducted compared with data from the observation system in Tarahara of Nepal since August, 2012. Main conclusions are listed as follows:

(1) Surface energy flux distribution in Nepal is consistent with its surface structure characteristics and the deviation between calculation value and observation value is less than 10%.

(2) Surface energy flux distribution in Nepal shows great difference in each season. Sensible heat flux accounts for the most in high altitude area and potential heat flux accounts for the most in low altitude area.

(3) Surface net radiation shows an increasing trend in the South Himalaya Nepal; sensible heat flux shows a decreasing trend (central area shows a little increase); and potential heat shows an increasing trend (central area shows a little decrease) .

This research is funded by CAS Xiandao Porject and NSFC Project.

Paper source: Amatya, P.M., Y. Ma, C. Han, B. Wang, L.P. Devkota, 2015, Estimation of net radiation flux distribution on the southern slopes of the central Himalayas using MODIS data, Atmospheric Research, 154: 146-154.doi: 10.1016/j.atmosres.2014.11.015.

Research on Characteristics of Heavy metal accumulation in soil along Qinghai-Tibet Road by Zhang Yili Research Group

Pollution coursed by transportation is a heavy headache for ecological and environmental protection, of which heavy metal accumulation is a hot spot because of its severe toxicity, easy to accumulate but hard to be degraded. With 90% freight and 70% passenger burden, dose heavy metal in soil caused by transportation accumulate? How dose environmental heterogeneity affect heavy metal accumulation ? Zhang Yili Research Group is trying to answer these questions and results are shown as follows:

(1) Heavy metal like Cr, Zn, Cu, As, Cd and Pb are related to transpotation along Golmud Lhasa section of Qinghai Tibet Road and Cd shows the highest accumulation level.

(2) Heavy metal accumulation changes in three trends as the distance from the road increases: index decrease, index fluctuation.

(3) There is significant correlation between environmental heterogeneity and heavy metal accumulation along Golmud Lhasa section of Qinghai Tibet Road; and the Tuotuo River section of Golmud Lhasa section is the highest heavy metal accumulation area.

This research also proved that some soil has relative high As background value along Qinghai-Tibet Road, and long term monitoring and researches are necessary on heavy metal change process in high As area.

This research is funded by NSFC projects (90202012，40801042) and CAS Xiandao Project (XDB03030500).

Paper source: Science of The Total Environment（Hua Zhang, Zhaofeng Wan, Yili Zhang, Mingjun Ding, Lanhui Li, Identification of traffic-related metals and the effects of different environments on their enrichment in roadside soils along the Qinghai–Tibet highway, Science of The TotalEnvironment doi:10.1016/j.scitotenv.2015.03.054）

Group Photo

COOPERATION & COMMUNICATION

46th International Center for Integrated Mountain Development Board of Governors' Meeting was held in Kunming

Entrusted by International Center for Integrated Mountain Development (ICIMOD), Kunming Institute of Botany of Chinese Academy of Sciences (CAS) and China Committee – ICIMOD organized the 46th ICIMOD Board of Governors' Meeting in Kunming from 23rd November to 1st December, 2015.

Established in 1983, ICIMOD is a regional intergovernmental learning and knowledge sharing centre serving the eight regional member countries of the Hindu Kush Himalayas – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. China is one of its founding countries and Chinese Academy of Sciences is its council member on behalf of Chinese Government. ICIMOD Board of Governors' Meeting is its highest policy decision making mechanism and its annual meeting held in each member country by turns.
In order to increase the understanding of ICIMOD project in China, from 25th to 26th November, 2016, representatives inspected the wetland recovery project area located in west lake, eryuan, Dali.

Around 50 Representatives from regional member countries, Independent Board Members and representative from ICIMOD donor organizations came together for the 46th ICIMOD Board of Governors' Meeting from 28th to 30th in Kunming China. In addition to a review of the Center's progress in 2015, policies and strategies that build on the ICIMOD's new strategy was discussed and approved. The annual meeting included meetings of the Programme Advisory Committee (PAC), ICIMOD Support Group (ISG) and the ICIMOD Board of Governors etc. During the meeting, the representative visited Kunming Institute of Botany and its botanical garden.

CNICIMOD and ICIMOD Signing MoU

CNICIMOD Enhanced Partnership with ICIMOD

Chinese Committee on International Centre for Integrated Mountain Development (CNICIMOD) and International Center for Integrated Mountain Development (ICIMOD) signed a memorandum of understanding in Kunming on 27th November. David Molden, Director General of ICIMOD, and Prof. Cui Peng, Secretary General of CNICIMOD, represented the two parties to sign this MoU. Other participants included: Basanta Shrestha，Director of Strategic Cooperation of ICIMOD, Wu Ning, Chief Scientist of Ecological Services Research Department of ICIMOD, Wu Yanhong, Director of CNICIMOD Chengdu Office, et al..

Prof. Cui Peng said that the MoU was a milestone in enhancing the bilateral cooperation; CNICIMOD would further play its role, enrolling more cooperation partners, jointly promoting the development of the Hindu Kush - Himalayan Region (HKH) with ICIMOD.

Wu Yanhong, Director of CNICIMOD Chengdu Office, introduced the

performance of CNICIMOD in recent years, and proposed the idea of how to enhance the partnership between China and ICIMOD.

CNICIMOD and ICIMOD signed a five-year agreement to promote substantive cooperation between them. According to the agreement, a steering committee has been set up by CNICIMOD and ICIMOD, as well as annual consultation system and observer system, and responsibilities and obligations of each other have been also explicitly listed. CNICIMOD, together with ICIMOD, will promote the sustainable development of the HKH region by joint researches, joint dissemination, personnel exchanges, international conferences etc. in the next five years.

A milestone: Bilateral Workshop on NSFC-ICIMOD Strategic Cooperation held in Chengdu

According to the memorandum of understanding signed between National Natural Science Foundation of China (NSFC) and International Centre for Integrated Mountain Development (ICIMOD) during the board meeting in Kunming, a bilateral workshop on NSFC-ICIMOD Strategic Cooperation was held in Chengdu from 31 March to 1 April, 2016. The workshop marked a ground breaking collaboration between China and ICIMOD with the outcome to provide substantial funding support on mountain research of the HKH region. The NSFC provides funding opportunities for scientific researches to Chinese scientists in a competitive basis and regarded highly prestigious in China.

Prof. Liu Congqiang, Vice President of NSFC, stated that the workshop provided a key platform to forge long-term strategic cooperation in identifying matching interests between NSFC and ICIMOD research areas in strengthening multi-national cooperation. The NSFC funding scheme is a mechanism to support interdisciplinary and integrated research and such funding will be available from the year 2016 onwards.

Bilateral Workshop on NSFC-ICIMOD Strategic Cooperation

More than 30 renowned Chinese scientists and scholars representing various academic and research institutions in China, presented different topics related to sustainable development of the HKH region - a priority of THE BELT AND ROAD of China.

David Molden, Director Genaral of ICIMOD, expressed his thanks and appreciations to NSFC and said the workshop was a milestone marking a new beginning of China-ICIMOD cooperation. Scientific research is an important ingredient in supporting evidence-based policy and practice. Research opportunities will provide avenues to inject new ideas and to integrate knowledge for sustainable mountain development.

This workshop was hosted by NSFC and organized by the China-International Centre for Integrated Mountain Development (CNICIMOD). CNICIMOD is considered as a bridge to connect ICIMOD with Chinese scientists. This workshop will be a milestone that NSFC–ICIMOD cooperation is officially started. NSFC will promote China's mountain science researches in HKH regions step by step, based on this important and unreplaceable international platform- ICIMOD.

CNICIMOD Steering Committee Meeting was held in Chengdu

From the signing of the Partnership Agreement between the China-International Centre for Integrated Mountain Development (CNICIMOD) and International Centre for Integrated Mountain Development （ICIMOD） during the board meeting in Kunming in November, the first ever CNICIMOD Steering Committee meeting was held in Chengdu on 30 March 2016. The meeting emphasized cooperation, coordination and co-design between ICIMOD and China activities to enhance the partnership between the two parties. Participants of ICIMOD include: David Molden, Director General of ICIMOD; Eklabya Sharma, Director of Program Operations; Basanta Shrestha, Director of Strategic Cooperation; Wu Ning, Theme Leader; and Naina Shakya, Partnership and Private Sector Specialist. Participants of CNICIMOD include: Wang Zhenyu, Division Director of Bureau of International Cooperation; Dong Qi, Senior Supervisor of Bureau of International Cooperation; Prof. Cui Peng, Secretary General of CNICIMOD; Prof. Wu Yanhong, Director of CNICIMOD Chengdu Office; and Liu Qin, Secretary of CNICIMOD.

Wang Zhenyu welcomed the participants, The Chinese Academy of Sciences (CAS) said that the CNICIMOD is an open platform facilitated by CAS, and will bring together a network of cooperation partners in China supportive of ICIMOD's mission and vision. David Molden said the meeting was an important milestone improving coordination and increasing ownership and visibility of ICIMOD's activities in China and thanked CAS for their continuing support.

The meeting deliberated on individual and joint roles and responsibilities between the two organizations to improve: regular communication, exchange and sharing of information through respective websites and networks; and introducing a CNICIMOD newsletter both in English and Chinese to include the China-ICIMOD Partnership Report for wider circulation. Other joint activities included: the

CNICIMOD Steering Committee Meeting

facilitation of ICIMOD activities in China, capacity building activities, exchange of staff and faculty, fellowship opportunities in China, and providing linkages to emerging partnerships.

Cui Peng made a summary. He emphasized the importance of THE BELT AND ROAD launched by Chinese government and suggested that the two parties should grab this fantastic opportunity to conduct joint activities like training courses, joint researches etc. David Molden, on behalf of ICIMOD, expressed his interest and willingness to join this event.

The next CNICIMOD Steering Committee will be held at ICIMOD in Kathmandu during in the spring of 2017.

The Second Round of MoU was Signed between IMHE and ICIMOD

The second round of MoU was signed between IMHE and ICIMOD in ICIMOD headquarters on 30th OCT. 2015. Deng Wei, Director of IMHE and David Molden, Director General of ICIMOD signed the MoU as the representatives respectively. Other participants included: Eklabya Sharma, Director of Program Operations, Basanta Shrestha, Director of Strategic Cooperation, Wu Ning, Chief Scientist of Ecological Services Research Department of ICIMOD, Naina Shakya, Partnership and Private Sector Specialist, Wu Yanhong, Director of S&T Division of IMHE, Liu Qin, Foreign Affairs Manager o of IMHE, et al..

IMHE delegates, Deng Wei as the leader, went to Nepal to participate in the 2015 Annual Summit of Himalayan University Consortium (HUC) from 28th to 30th, October, 2015. Taking this opportunity, they visited ICIMOD to discuss how to enhance the cooperation between the two sides and signed the second round of MoU. IMHE and ICIMOD reached a consensus that the two parties will promote the bilateral substantive cooperation, and jointly expand their international influence by personnel exchanges, information sharing, joint researches, jointly organizing various international events and so on; besides, IMHE will continue to steadily promote the international science and technology cooperation with other countries in South Asia.

David Molden stressed that China was a great and indispensable partner for ICIMOD, and expressed his thanks to IMHE's support of the development of mountainous areas in South Asia. He expected that ICIMOD and IMHE could strengthen exchanges and enhance

Meeting on HKH Cooperation between IMHE and Sichuan University

cooperation in the future.

Deng Wei said that IMHE and ICIMOD had great achievements on joint researches, personnel training, international rescue and so on for over 20 years; this new MoU would greatly promote the bilateral cooperation; IMHE was willing to promote the sustainable development of mountainous areas in South Asia with ICIMOD.

In recent years, based on the first round of MoU (2011-2015), IMHE and ICIMOD have made significant progress in personnel training, joint researches and so on: IMHE has sent several staffs to ICIMOD for training or short term work, and the average number of annual bilateral visit is over 3 times per year; besides, IMHE and ICIMOD have joint carried out research projects in Koshi River basin and Himalaya regions.

IMHE and Sichuan University Reached a Preliminary Cooperation in HKH Regions

Deng Wei, Director of IMHE, accompanied by Wu Yanhong and Liu Qin, staffs of CNICIMOD Chengdu office, scientists from IMHE's research units, visited Collaborative Innovation Center for Security and Development of Western Frontier China(CICSDWFC) in Sichuan University on 28th December 2016, to discuss bilateral cooperation in South Asia and mountainous areas of west China. Participants included: Prof. Luo Zhongshu, Director of CICSDWFC; and core cadres of multiple institutes (i.e., Office of Social Science, CICSDWFC, as well as Institute of South Asian Studies) in Sichuan University.

Prof. Luo Zhongshu welcomed IMHE delegates. He said that IMHE and multiple institutes of Sichuan University had cooperated for a long time. Sichuan University joining HUC of ICIMOD this year, provided one more platform for cooperating with IMHE and CNICIMOD. After introducing academic activities and research findings related to Himalaya region, Luo Zhongshu expressed his hope that Sichuan University could have more extensive cooperation and establish a long-term sustainable mechanism with IMHE, to raise the concern from scholars and the public to Himalaya region.

Deng Wei, Director of Institute of Mountain Hazards and Environment of Chinese Academy of Sciences, appreciated Luo Zhongshu for his wide strategic vision. He said that IMHE and Sichuan University had many cooperating chances, because of “the belt and road” strategy. He expected

2015 IMD Dissemination

that IMHE and Sichuan University could cooperate in personnel exchanges, information sharing, joint researches, joint hosting academic activities and so on, finally developing a strong cooperating team to create a new situation of researches related to West China and South Asia.

CNICIMOD and Sichuan University Jointly Celebrated the 2015 International Mountain Day

11st December is the annual International Mountain Day. 2015 theme was "Promoting Mountain Products for Better Livelihoods". To celebrate this festival, CNICIMOD and Collaborative Innovation Center for Security and Development of Western Frontier China co-organized the propaganda exhibition of International Mountain Day.

This exhibition disseminated information about International Mountain Day, ICIMOD, CNICIMOD, as well as the mission and the development of IMHE by putting up posters, giving handbooks, illustrating on site, interacting and so on. The exhibition attracted hundreds of staffs, teachers and students from IMHE and Sichuan University, effectively publicizing the development of mountainous areas in the world, attracting more attention to livelihoods, environments, security and development of mountainous areas, as well as encouraging more scholars and students to join scientific researches related to mountainous regions.

Mountain Futures Conference was held in Kunming

Kunming Institute of Botany of Chinese Academy of Sciences (CAS) and ICRAF organized Mountain Future Conference on 1st March, 2016. More than 150 delegates from over 30 countries including scientists, government leaders, community representatives, donors and NGO representatives attended this conference. The purpose of this 4-day conference was to seek positive social and environmental changes, in order to improve the sustainable development of mountainous areas and the well-being of human.

In the conference, 3 organizers from Chinese Academy of Sciences (i.e., Kunming Institute of Botany, Institute of Mountain Hazards and Environment, as well as Institute of Geographic Sciences and Natural Resources Research) and ICRAF proposed the concept called "Mountain Future Initiative".

Prof. Xu Jianchu, Chief Scientist of ICRAF said "We always imagine negatively for the future, and concern about our faults too much. However, the beautiful future of mountainous regions should focus on what we can do. We can combine traditional knowledge and scientific research, as well as innovate in knowledge, technology and mechanism, thus creating a better future."

Mountain Future Initiative is implemented by 3 mechanisms: 1) Explore nurturing seeds for change in the Anchropocene; 2) Establish the R&D platform for multi-stakeholders; 3) Generalize typical experiences of achievements of sustainable livelihoods, environmental integrity and social justice.

Yang Yongping, Vice-Director of Kunming Institute of Botany, stated, "Mountain ecosystem has high biodiversity and rich biological resources. Its rich plant germplasm resources are natural capital getting from nature, and can be developed into special and high-value products in order to stimulate community and local economic development."

Zhang Linxiu, a representative of Center for Chinese Agricultural Policy of CAS, presented, "Human capital is very important, so education in mountainous areas should be concern about. Besides, we found that the nutritional status of children in rural areas was related to their intellectual development." Deng Wei, Director of Institute of Mountain Hazards and Environment of CAS, proposed that China should set an example, to make a better future for the global mountainous areas. Xu Hongyuan, Vice-Director of China Agriculture for Trade and Economy, said that "Mountain Future Initiative" was consistent with "The Belt and Road" strategy and "South-south Cooperation Initiative". Nisar Memon, Former Minister of Department of Public Information in Pakistan government, agreed with Xu Hongyuan's opinion and said that we couldn't separate mountainous areas, because mountains were often crossing the border or beyond boundaries.

This conference was supported by co-organizers (i.e., UNEP, UNESCO, ICIMOD, Center for Development and Environment of University of Bern, and American University of Central Asia), as well as sponsored by IDRC, SDC and PCD.

Mountain Futures Conference

Regional Expert Consultative Symposium on Managing Wetland Ecosystem in the Hindu Kush Himalayas held in Dali, Yunnan, China

Regional Expert Consultative Symposium on Managing Wetland Ecosystem in the Hindu Kush Himalayas held in Dali, Yunnan, China from 25th to 27th August, 2015. The symposium is sponsored by International Center for Integrated Mountain Development (ICIMOD) and organized by Kunming Institute of Botany of Chinese Academy of Sciences (CAS), Yunnan Institute of Environmental Science and Chengdu Institute of Biology of CAS.

Around 60 delegates from 7 countries (Bangladesh, Bhutan, Indian, Myanmar, Nepal, Switzerland, Nepal and China) including government officials and researchers attend this symposium. As independent member of ICIMOD Board of Governors, Ms. Wang Yanfeng, Vice President of University of Chinese Academy of Sciences attend the symposium, Wetlands International-China also send representative, There are also 10 participants ICIMOD delegation leaded by Dr. Eklabya Sharma, Director Programme Operations and wetland managers from grass-roots units.

Wetland biodiversity, wetlands ecology and climate change, wetland-ecosystem services, wetland policies, and cooperation and other topics are discussed ardently during the symposium. During the symposium (26th August), all delegate inspected the wetland sustainable development project area located in west lake, eryuan, Dali, the project is sponsored by ICIMOD

Through 2day's indoor discussion and 1

day's investigation, symposium's expectant objectives include, 1) Understand present status and trends on wetland resources and services, 2) share and discuss on existing policies and frameworks supporting to wetland management, and 3) suggest possible management recommendations for policy support in wetland management have been achieved.

TPE Science & Technology Training was held in Yunnan

Supported by of Bureau of International Co-operation Chinese Academy of Sciences, 2015 TPE Science & Technology Training, which was hosted by TPE and TiP, was held in Yunnan. 53 trainees, coming from China, Nepal, Pakistan, India, Tajikistan, Myanmar, Germany, Iran, Singapore and other countries, participated in this training.

This 5-day training included 17 indoor courses, twice outdoor practices and 1 academic exchange from 10th to 23rd August. The theme of indoor courses was “Third Pole Environment”. These courses

were taught by senior experts in the world, making trainees know the important researching progress of TPE. Besides, trainees did outdoor practices about glacier and ecology in Yulong Snow Mountain. These practices helped trainees to use theoretical knowledge into practice, and aslo improved their team work spirit.

Training workshop held successfully in Lhasa, 25th Dec. 2015, on Access and Benefit Sharing of genetic resources and associated traditional knowledge (ABS)

Training workshop on ABS held successfully in Lhasa, 25th Dec. 2015. This workshop was organized by Kunming Institute of Botany, Chinese Academy of Sciences, and co-organized by Tibet Academy of Agricultural and Animal

ICIMOD FOR MOUNTAINS AND PEOPLE

Regional Expert Consultative Symposium on Managing Wetland Ecosystem in the Hindu Kush Himalayas

Aug. 25th – 27th, 2015 Dali, Yunnan, China

YIES CIB

husbandry Sciences (TAAAS), Nanjing Institute of Environmental Sciences and Guizhou University. It is one of the important output of a project named “Kailash Sacred Landscape Conservation and Development Initiative (KSL)” which was financially supported by the International Centre for Integrated Mountain Development (ICIMOD).

Convention on Biological Diversity and Nagoya protocol have set up international institutional basis for ABS, which is also the milestone for recognizing ABS in bio-industry globally. Tibetan Autonomous region (TAR) with unique biodiversity and associated potential economic values has become one of international and national focus for bioprospecting. This training workshop aimed for awareness raising of key stakeholders within TAR.

There are in total 60 people are trained, of which 25 are females. Participants are village leaders and government officials from Pulan County; researchers from TAAAS, Tibetan institute of alpine biology, and Intellectual Property Bureau of Tibet Autonomous Region. Leading experts on ABS issues in China provided training lectures. They are from Agricultural Committee of the National People's Congress, Nanjing Institute of Environmental Sciences, and Wuhan University. After lectures, good discussions have been made among participants. Cross-scale ABS issues have been discussed in TAR context. This training built solid ground for implementation of KSL project on ABS issues.

TPE Session of 2016 EGU Convention was held in Vienna

EGU was held in Vienna, Austria, from 18th to 22nd April. TPE international plan organized a chapter named “The Third Pole Environment-Observation and modelling of hydro-meteorological processes in high elevation areas” again in EGU convention. Conveners of TPE chapter included: Prof. Ma Yaoming and prof. Zhang Fan, from Institute of Tibetan Plateau Research; Prof. Franco Salerno, from Water Research Institute of Italian National Research Council (CNR); Prof. Bob Su, from Universiteit Twente, et al..

In the chapter, 12 scholars reported and 16 scholars shared their research findings by panels about hydrometeorological processes in high-altitude, like Third Pole. TPE hydrometeorological thematic chapter provides a good platform to scholars to show their research findings and carry on academic exchanges. Besides, this chapter improves the effect of international scientific programs led by Chinese scientists.

SAARC Visited IMHE

Senior Officials of South Asian Association for Regional Cooperation (SAARC) Visited IMHE

Senior officials of South Asian Association for Regional Cooperation (SAARC), accompanied by staffs from Ministry of Foreign Affairs of China and Department of Foreign and Overseas Affairs of Sichuan Province, visited IMHE on 20th August, 2015. The two parties shared experience and initiatives on natural disasters and post-earthquake disasters prevention and mitigation. And then SAARC delegates visited the debris flow dynamics simulation and experiment hall of IMHE.

THE BELT & ROAD INITIATIVE

YAO Tandong: Chinese Scientists Support for the Belt and Road

President Xi Jinping proposed the Belt and Road in 2013 which has received wide international support. The Belt and Road is considered as a vital initiative for China's deepened reformation, enlarged opening and international cooperation. Scientific cooperation is an important theme in process of the Belt and Road construction strongly supported by scientific researches.

Vison and proposed actions outlined on jointly building Silk Road Economic Belt and 21st-Century Maritime Silk Road issued by the National Development and Reform Commission ,Ministry of Foreign Affairs, and Ministry of Commerce of the People's Republic of China put forward that ecological civilization should be emphasized in investment and commerce, and ecological environment, biodiversity and climate change are important content in construction of green silk road. It is a great challenge to maintain ecological and environmental sustainability in the areas of the Belt and Road. Natural hazards like water resource shortage, air pollution, flood & aridity, glacier lake outburst, landslide and debris flow etc. have severely affected people's life in this area and it is necessary and very urgent to conduct researches on these aspects.

The Third Pole Area(TPA) is referred to the Qinghai-Tibet Plateau and its neighboring areas, west from the Pamir Plateau and Hindu Kush Region east to traverse mountains, north from Mt. Kunlun and Mt. Qilian south to Himalaya region, covering around 500 km2, with average elevation of over 4000 m. TPA is a global unique systematic unit with geology-geography-resource- ecology coupled, and its environmental changes will directly affect China as well as other neighboring countries. Meanwhile, TPA is closely connected with the Belt and Road areas, considered as core areas. The Belt is referred to the region from The Third Pole north to west then to Central Asia, crossing different landscapes like mountains, gobi, desert, glacier, lakes etc., most of which are environmental and ecological fragile areas, severely affected by global climate change. The Road is referred to the region from The Third Pole south to west. Besides the similar geomorphologic landscapes as that of The Third Pole north, extreme events of climate and environment often happen in this region, mainly caused by Indian monsoon evolution. Therefore, it will make great sense to conduct researches on TPA to support for the Belt and Road construction.

Both top-down design and specific procedures are necessary to solve the issues of water resources shortage, biodiversity loss, climate change, environmental pollution etc. during the Belt and Road construction. The international research plan on Third Pole Environment (TPE) is one of the most important tasks of the Belt and Road construction. Focusing on the interaction of atmosphere , hydrosphere, cryosphere, biosphere, lithosphere and human, TPE international research plan aims to solve scientific issues on temporal and spatial characteristics of TPE, earth surface interaction and geo-hazards process, response of ecosystem to environmental change, effect of human activities on TPE and adaption and countermeasures to environmental change in this region. Great progress of TPE international research plan has been achieved in the aspects of scientific forum, young talents training, trans-boundary field trip, observation network construction, database construction etc., famous in TPE brand, talent resources etc. as a think tank. More and more scientific research plans on TPE are significant to boost the Belt and Road construction.

Paper source: People's Daily

GLOBAL FOCUS

World Water Day-2016 'Water and Jobs'

‘Water and Jobs – Empowering Young Professional’ was the theme for the 2016 World Water Day celebration program, highlighted the relationship between water and the employability agenda in the quest for mountain development and sustainable livelihoods. The International Centre for Integrated Mountain Development (ICIMOD) celebrated the day in collaboration with the Ministry of National Food Security & Research (MNFS&R), Pakistan Council of Research in Water Resources (PCRWR), Government of Gilgit Baltistan, Karakoram International University (KIU), Aga Khan Rural Support Programme (AKRSP), WWF-Pakistan, Gilgit Serena hotel and local communities at KIU, Gilgit on 22 March 2016.

More than 200 participants from government, non-governmental organisations, educational institutions, students and local communities attended the event. Key speakers and guests of honour were: Muhammad Iqbal, Minister for Public Works Department; Haji Abdul Wakeel, Minister for Forest, Wildlife and Environment Department, Government of Gilgit-Baltistan; Muhammad Hashim Popalzai, Additional Secretary, MNFS&R, Islamabad; and Muhammad Ashraf, Chairman, PCRWR.

World Risk Index presented by Prof. Birkmann at a high level event in New York

Prof. Dr. Jörn Birkmann, director of the Institute of Spatial and Regional Planning, University of Stuttgart and member of the IRDR (Integrated Research on Disaster Risk) Science Committee presented together with colleagues from the UN University and the Alliance Development Works the World Risk Report and the

latest results of the World Risk Index. The high level event that took place at the German House in New York on 26 February 2016 was attended by more than 100 diplomats, UN officials and scientists. It was hosted by H.E. Ambassador Harald Braun, Permanent Representative of Germany and H.E. Ambassador Masud Bin Momen, Permanent Representative of Bangladesh.

The World Risk Index (see http://www.uni-stuttgart.de/ireus/Internationales/WorldRiskIndex/) developed and calculated by Prof. Birkmann and Dr. Welle from the University of Stuttgart, evaluates the exposure to natural hazards faced by 171 countries and assesses the inherent vulnerability in the countries towards suffering from impacts when facing these hazards.

The index shows that Vanuatu is the country with the highest disaster risk (Index value: 36.72) among the 171 countries covered by the World Risk Index 2015. Tonga ranked 2nd (Index value: 28.45) and the Philippines, ranked 3rd (Index value: 27.98). Whereas Tonga shows an increase in the lack of adaptive capacities, the Philippines have managed to slightly reduce their lack of adaptive capacities and susceptibility.

Thus, one can conclude from the results of the World Risk Index that the conventional classification of countries into least developed, middle income and high income countries is not sufficiently applicable anymore for risk reduction and adaptation strategies that have been agreed upon in Sendai (Sendai Framework) and the COP 21 in Paris in 2015. For implementing the Sendai and Paris agreements, we need to better account for similarities of countries in terms of hazard exposure and vulnerability profiles said Prof. Birkmann during the event.

Moreover, Dr. Garschagen from the UN University stressed that the report clearly shows that hunger and food insecurity have negative effects on disaster risks and that disasters might increase food insecurity. Floods or cyclone events, for example, often do not only destroy harvests and granaries; they also destroy transportation infrastructure and lifelines, which hampers the provision of supplies to crisis regions. Not only do disasters often have devastating consequences for a country's food situation but food insecurity conversely also raises disaster risk.

2016 Annual meeting of IRDR CHINA was held in Beijing

2016 Annual meeting of Chinese Committee of Integrated Research on Disaster Risk (IRDR CHINA) was held in Beijing 29th March, 2016, over 40 participants from Chinese Academy of Sciences(CAS), Chinese Academy of Social Sciences (CASS),China Association of Science and Technology(CAST) and IRDR International Program Office (IRDR IPO) etc. attending this meeting, President of IRDR CHINA , CAS Academician , Prof. Guo Huadong as the chair.

Wang Qinglin, director of international department of CAST gave a presentation: boosting international organization innovation in China. All participants joined in a full discussion on working mechanism of IRDR CHINA, annual event of IRDR CHINA, etc. Guo Huadong said, under the Belt and Road scientific cooperation frame work, IRDR CHINA will focus on national strategy and international hot spots on disasters (e.g. new urbanization etc.), and propose series of scientific programs to support for domestic and international disaster mitigation.

IRDR is a decade-long research program co-sponsored by the International Council for Science (ICSU), the International Social Science Council (ISSC), and the United Nations International Strategy for Disaster Reduction (UNISDR). It is a global, multi-disciplinary approach to dealing with the challenges brought by natural disasters, mitigating their impacts, and improving related policy-making mechanisms. Core funding for IRDR is provided by the China Association for Science and Technology(CAST). IRDR International Program Office (IRDR IPO) is hosted by Institute of Remote Sensing and Digital Earth (RADI) Chinese Academy of Sciences.

IRDR-CHINA Annual Meeting

Tenth Meeting of China-UNEP Annual Consultation was held in Beijing

Tenth Meeting of China-UNEP Annual Consultation was held in Beijing on 29th January , 2016 , with the purpose of overviewing China-UNEP cooperation achievements, experience and lessons, and discussing the directions of China and global environmental treatment strategy as well as future work plan.

2015 is a milestone for China and UNEP. “2030 Sustainable Development Objectives” and “Paris Climate Change Protocol “ have been issued by UN since 2015 and UNEP, in charge of boosting national process, has devoted itself into series of work on science, technology and policy innovation. In the meantime, Chinese 13th Five-year Plan was made in 2015 when the two parties have a the same goals on environmental protection and signed over 20 MoUs on green finance, resource and energy efficiency, air pollution, green economy, ecosystem management, climate change, chemical and waste disposal management, environmental legislation, education, public information communication etc.

The two parties will further strengthen cooperation on environmental treatment, eco-city construction, global commerce, green finance etc. in 2016 and continuously carry out the work on global sustainable development, ecological civilization, greening Chinese 13th Five-year Plan and the Belt and Road etc. through dialogue platforms like 2nd United Nations Environment Assembly (UNEA-2), China Council for International Cooperation on Environment and Development (CCICED) etc.

The meeting considered China trust fund projects progress under the South-South Cooperation Frame Work and cooperation strategy in the coming future. Based these projects, China will strongly support for Africa and other Asian developing countries in capacity building of international conventions, environmental law enforcement, green economy transformation etc.

UNESCO Director-General visits Nepal to monitor post-earthquake recovery

Katmandu, 17 April – UNESCO Director-General Irina Bokova began a three day mission to Nepal today, for the main purposes of monitoring the post-earthquake recovery process and to visit Lumbini, the birthplace of Lord Buddha. She will also visit UNESCO's project sites, including World Heritage sites and Community Learning Centers. Joint programs by UNESCO and the government in the fields of education and culture will also be launched during her stay which continues through 19 April. The mission is at the invitation of the Government of Nepal.

Ms Bokova will meet the President, the Prime Minister, among other officials, including the ministers of education, culture and foreign affairs to further discuss cooperation between Nepal and UNESCO in all fields of the Organization's competence, especially in the efforts of post-earthquake reconstruction and rehabilitation. It will also give momentum to expanding UNESCO programs in the fields of education, culture, science and media development.

UNESCO Director-General, Irina Bokova, and the President of Nepal, Bidya Devi Bhandar, in Kathmandu (Nepal), on 18 April 2016

Nepal became a member of UNESCO in May 1953. The UNESCO Office in Kathmandu was established in 1998. In close partnership with the Government of Nepal UNESCO has focused on attaining a quality Education for All, gender equality and adult literacy. The office has also worked to preserve cultural heritage, promote cultural diversity and intercultural dialogue, and to empower people through the free flow of ideas and access to information and knowledge, and to mobilize scientific knowledge and science policy for sustainable development. “2030 Sustainable Development

China considers ICMOD as a valuable platform for increasing scientific exchange and regional cooperation among countries of the Hindu Kush Himalayas.

Secretariat of the Chinese Committee on ICIMOD
Institute of Mountain Hazards and Environment,
Chinese Academy of Sciences (CAS)
No.9, Section 4, South Renmin Road 610041
Chengdu, Sichuan, P.R. China
Tel: +86-28-85259762 +86-28-85235224
Fax: +86-28-85222258
Email: yhwu@imde.ac.cn qinliu@imde.ac.cn