

## **International Year of Rangelands and Pastoralists session held in Annual Meeting of Chinese Grassland Society in Changsha on 9 April 2023**

On 8–9 April 2023, the grand opening of the Annual Meeting of the Chinese Grassland Society 2023, sponsored by the Chinese Grassland Society and hosted by Hunan Agricultural University, was held in Changsha, China. A session on the "International Year of Rangelands and Pastoralists" (IYRP) was held on the afternoon of 9 April 2023. Scientists, educators, students and pastoralists from the grassland industry and related fields from all over the country, as well as other pastoralists and media friends concerned about livestock production, attended this session. The meeting was chaired by the Vice President of the Chinese Grassland Society, Guodong Han. Professor Ruijun Long of Lanzhou University, Assistant Professor Lingling Hou of Peking University, Professor Guixia Qian of Inner Mongolia University, Professor Fulin Du of Inner Mongolia Agricultural University, Researcher Ping Li of the Institute of Grassland Research of the Chinese Academy of Agricultural Sciences, Professor Zongjiu Sun of Xinjiang Agricultural University, Professor Liu Min of Lanzhou University, and pastoralists Buhe Chaolu from Siziwang Banner in Inner Mongolia and Gongbao Lezhi from Luqu County in Gannan Prefecture in Gansu took part as speakers in the session.

At the beginning of the conference session, Guodong Han expressed his gratitude to the leaders and guests attending the conference. He stressed that the IYRP resolution submitted by the Government of Mongolia and supported by numerous international organizations was adopted by the plenary session of the UN General Assembly on 15 March 2022, declaring 2026 the International Year of Rangelands and Pastoralists. This session during the Annual Meeting aimed to raise awareness about healthy grasslands and sustainable grassland farming. On the basis of the latest research results and progress in Chinese grassland research, we should promote exchange and cooperation between scientific research personnel in grassland-related fields and the frontline personnel in animal husbandry, and advocate for strengthening the implementation capabilities of the animal husbandry management department, so as to realize the sustainable utilization of grasslands.



In order to strengthen the connection between scientific research and production practice, and to truly understand and help pastoral areas solve practical problems in production and life on the basis of in-depth research on grassland ecological development, two special guests were invited to the conference. They were two herders, one from Larenguan Township, Luqu County, Gannan Prefecture, Gansu Province and one from Siziwang Banner, Inner Mongolia. Through Gongbao Lezhi's and Buhe Chaolu's descriptions of local livestock production, we learned that the current operation of livestock production cooperatives, livestock breeding activities, and accurate pasture management using summer grazing and winter stall-feeding can greatly improve animal husbandry income, but that the

state of pastoralists' cooperatives is still a severe challenge to economic development in pastoral areas. After the presentation, the two special guests exchanged and interacted with the teachers and students related to the grassland industry, answering the questions and doubts of the experts and scholars on production in pastoral areas.



At the conference, Professor Ruijun Long delivered a keynote report on the IYRP, pointing out that grasslands contribute greatly to global ecology, production and livelihood security by serving billions of non-pastoralists through tangible and intangible goods such as healthy and affordable animal products, tourism, wildlife and biodiversity conservation. As stewards of grasslands, pastoralists play a vital role in maintaining and increasing biodiversity and providing ecosystem services. The IYRP is therefore an opportunity for policymakers to better recognize the tremendous value of rangelands and pastoralists, to better understand how they contribute to the environment, economy, society and culture at the national and global levels, and to build consensus for the sustainable development of national, regional and global rangeland-based production systems.



Professor Lingling Hou’s team and Professor Du Fulin, respectively, reported on "Economic and policy research on grassland protection and economic development in pastoral areas" and "Rural revitalization: how to deal with pastoral areas". In their reports, the two professors discussed the economy of pastoral areas and proposed that the transition of low-level quantitative animal husbandry to high-level quality animal husbandry is a severe test for pastoral areas. How to balance grassland ecological protection and economic development of pastoral areas is the primary problem. The effects on grassland quality of the grassland property rights system, the grassland ecological compensation policy and informal systems based on villagers' conventions were compared. It was pointed out that government policy support had positive effects on grassland ecological protection and economic development of pastoral areas. In addition, the pastoral areas themselves should carry out modernization. Through the improvement of modes of operation, the integration of economic sectors and policy support, they should build modernization pilot areas first, building modernization demonstration areas in pastoral areas to provide a demonstration effect across larger areas, so as to practice the concept of ecological priority and green development.



Professor Guixia Qian presented the report "The effect of realizing the value of ecological products", in which she pointed out that the process of realizing the value of ecological products is mainly through the intervention of policy tools, with residents, enterprises and government as the main actors, the construction of supply chains, and the selection of different markets for trade. However, existing cases mainly focus on forest, farmland and other ecological products, and there are few ecological products based on grasslands or deserts. Professor Guixia Qian proposed that ecological products from grassland and desert should be refined and promoted in the future, and their trading environment should be improved.



Professor Ping Li made a report on the “Analysis of the generational transmission intention of grassland animal husbandry operation and its influencing factors”. He pointed out that the two production factors – grassland resources and labor resources, which are mainly produced and managed by families – are the main factors affecting the intergenerational transmission intention of herders' grassland animal husbandry operations at present. Against the background of pastoral area revitalization and urbanization development, the decline of the population engaged in grassland-based production in the pastoral areas is an inevitable trend, and suggestions were made on how to improve the production and living conditions in the pastoral areas and grassland husbandry in the future to attract young people to stay or return to the pastoral areas.



Professor Zongjiu Sun's report “Thoughts on the utilization and management of natural grassland in Xinjiang” outlined the basic situation, utilization mode, production and life style of herders and their utilization and management of grasslands in Xinjiang. In the report, problems and thoughts on the utilization of grassland in Xinjiang were put forward. Among them, the report pointed out that, with ongoing herder settlement, grassland utilization patterns need to be further improved, and the production mode should be adjusted to "grazing in the warm season and feeding in the cold season". The subsequent industrial problems of herder settlements are more prominent. The industrial structure of herder settlements is not diverse, and there are no suitable employment opportunities, and herders' educational level and labor skills outside of pastoralism are limited. Grassland degradation is still serious. Rapid restoration and effective extension of new technology, and research and development need to be strengthened. The balance of herbage and livestock and grazing techniques in grazed grasslands should be adjusted accordingly. The grassland agriculture model brings positive benefits from economic, ecological restoration and social development perspectives.



Professor Quanmin Dong reported on the “Restoration and rational use of alpine degraded grassland”, in which he proposed that the restoration of alpine degraded grassland should be based on less ecological areas to develop a suitable model of "local conditions, regional promotion", such as (1) an ecological model based on restoring the ecology of degraded grassland, that integrates the technical model of "banning grazing and grazing exclusion + ecological migration + seasonal grazing and rotational grazing + supplementary seeding + ‘black beach’ soil management + balanced feeding"; (2) an integration model that integrates development and industrial transfer of the primary, secondary and tertiary industries to form a development model based on ecological animal husbandry cooperatives; (3) a transition model aiming at the transition from grazing systems to semi-stall feeding animal husbandry, that integrates the rational use of grassland + artificial forage land + shed feeding + efficient livestock raising.



Professor Min Liu reported on "Macro level carbon emission measurement research and emission reduction prediction analysis of livestock production based on the IPCC Level 2 Algorithm". She pointed out that it is difficult to measure carbon emissions of large-scale livestock production using measurement methods in the field of animal science. The carbon emission data obtained by multiplying the number of animals by an emission factor has a large error, and cannot reflect the carbon emissions of livestock production at the county level and household level. Therefore, she used the IPCC Tier 2 algorithm to calculate more accurate emission factors, and estimated carbon emissions for household-level livestock production, so as to analyze emission reduction options. This method could predict the expected effects of different emission reduction methods, and then identify which of the methods should be prioritized and which regions should be prioritized for livestock production emission reduction.



Finally, Professor Guodong Han expressed his warm welcome and sincere thanks to all the participants and experts in the IYRP. He hoped to work with researchers and herders in related fields to promote the sustainable use of resources and achieve the goal of sustainable development of herders in pastoral areas.



Edited by Guodong Han and Ruijun Long