

Tentative Schedule of Field Visit

(August, 2024 Pu'er City, Yunnan Province)

Date	Time	Arrangement
22 August, 2024	08:00-09:00	Heading to Ninger County
	09:00-12:00	Visit Pu'er Yunjing Feilin New Materials Co., Ltd.
	12:00-12:30	Heading to Nakeli
	12:30-13:30	Lunch
	13:30-15:30	Visit Nakeli
	15:30-16:00	Heading to Huayu Household Goods Co., Ltd.
	16:00-17:00	Visit Huayu Household Goods Co., Ltd.
	17:00-17:30	Back to the APFNet Pu'er Base
	17:30-18:30	Dinner
24 August, 2024	10:30-12:00	Visit Forest Fire Monitoring and Early Warning System at the APFNet Pu'er base
	12:00-13:00	Lunch
	13:00-14:00	Heading to Pu'er Sun River Forest Park
	14:00-17:00	Visit Pu'er Sun River Forest Park
	17:00-18:00	Back to the APFNet Pu'er base
	18:00-19:00	Dinner

Date	Time	Arrangement
25 August, 2024	08:00-08:15	Heading to Mawangtang project site
	08:15-09:00	Visit Mawangtang project site
	09:00-09:30	Heading to Pu'er Songmaogu Traditional Chinese Medicine Development Co., Ltd.
	09:30-11:30	Visit Pu'er Songmaogu Traditional Chinese Medicine Development Co., Ltd.
	11:30-12:00	Back to the APFNet Pu'er base
	12:00-14:00	Lunch
	14:00-14:30	Heading to Pu'er Forestry and Grassland Research Institute
	14:30-16:00	Visit Pu'er Forestry and Grassland Research Institute
	16:00-16:30	Heading to Fine Variety Ecological Tea Garden
	16:30-17:30	Visit Fine Variety Ecological Tea Garden
	17:30-18:30	Dinner

A Brief Introduction to Field Visit Sites

Pu'er City

Pu'er City is situated in the Southwest part of Yunnan Province and administers one district and nine counties over a jurisdiction area of 45,385 km². It is the largest prefecture in Yunnan in terms of area. Pu'er City is around 430 km south of Kunming. Pu'er Prefecture



borders the Laos and Vietnam in the Southeast and adjoins Myanmar in the Southwest, sharing an international border of 486 km with these countries. The Lancang (Mekong) River, Red River and Nankang River flow to the neighboring countries. A significant segment of the famous Southern Silk Road traverses Pu'er City. The total population of Pu'er Municipality is 2.34 million, of which 1.45 million are ethnic minorities, accounting for 61.2% of the total. There are 26 ethnic minorities in the prefecture and 14 of whom are indigenous inhabitants, which mainly include the Hani, Yi, Dai, Lahu, Wa, Bulang and Yao peoples. It is an important production area of the renowned Pu'er Tea and one of the largest tea production areas in China.

Distributed within the territory of Pu'er Municipality are vast undulating mountains that occupy 98.3% of its landscape. Due to its proximity to the Tropics of Cancer and an integrative impact of the physiognomy and varying elevation gradient from 376 to 3,306 meters, distinctive vertical climate zones are widespread in the region. Being located at the same latitude with that of Cuba in Central America and Taiwan Province of China and as a result of its location on the transient area between the northern and southern bio-geographic regions, its landscape has long been reputed as "a magic natural museum" that composed of rich species diversity, lush primary forest vegetation, rare animals and plants, and a diverse and uplifted landscape.

Field Visit Sites

1. Wanzhangshan Forest Farm



Wanzhangshan Forest Farm (WZSFF) is a new type of state-owned forest farm that was created through reforming a previous forest logging enterprise. The forest lands with an area of 19,120 ha are managed by WZSFF, of which 9,413.3 ha is commercial forest and 7,986.7 ha is ecological

forests and 1,720 ha is other forests. Currently, the forest farm has 60 permanent staffs. In the past decade, the forest farm has implemented the Low-yield Forest Improvement Programme and afforestation on barren land. In total, about 40 km² of plantation forest has been established and eight million trees have been planted. The indigenous species, *Pinus kesiya* (also called Simao pine), is the main tree species used in the afforestation project.

The survival rate has maintained at above 96% in the planting year and above 86% in following years. Through years of efforts, the forest stands in Wanzhangshan Forest Farm has been greatly improved. Sustained forest resources were enhanced significantly and net growth of forest resources is also increasing steadily. The establishment of effective management models for state-owned forest farms has contributed substantially to the management goals of "seeing green mountains and steady stock growth", and to the erosion control and ecological protection in the watersheds of the Mekong River.

APFNet started to cooperate with the Wanzhangshan Forest Farm with launching the demonstration project for integrated forest ecosystem management planning and demonstration in the Greater Mekong Subregion (Pu'er Project Site). The Pu'er Project commenced in 2015 and the demonstration site is spread over an area of 396.7 ha. Within this large demonstration site there are different components – including plantations of *Pinus kesiya* and other species in an area of 120 ha, mixed forest with an area of 50 ha, botanical garden and ecotourism area spread over 5 ha, resin tapping area of 30 ha, etc. The demonstration site is intended to show-case the best practices on integrated forest management and

considerable emphasis is given for capacity building of staffs through training and provision of technical support. Around 280 households are also involved in various project activities underpinning the social dimension of integrated ecosystem management. Then in 2019, the APFNet Pu'er Sustainable Forest Management Demonstration and Training Base (referred as “the APFNet Pu'er Base”) was established by APFNet and WZSFF, and officially put into operation in July, 2021. The APFNet Pu'er Base now serves as a platform of offering opportunities to conduct scientific research related to forest and forestry, forestry training and environmental education as well as facilitating information exchange and policy dialogues of promoting sustainable forest management in the Asia-Pacific region.



2. Forest Fire Monitoring and Early Warning System



As one of main factors of threatening to forest ecosystems and people well-beings, forest fires have frequently and devastatingly occurred and caused enormous loss in many places of the world. With an increasing awareness in forest ecosystem protection and tackling to global climate change, it is essential to take efficient actions of preventing and monitoring forest fires.

Yunnan Province, one of the major forest regions in China, has faced a number of challenges related to the prevention of forest fire such as poverty issue, forests grown in remote and mountainous areas and a long fire-prevention period each year etc.. In order to minimize loss caused by forest fires, it is crucial to early detect forest fires and regular monitor forests by using high-tech forest fire monitoring and early warning system (FFMEA) like “Forest Watcher”. Sponsored by APFNet, Wanzhangshan Forest Farm has been selected as the demonstration project site and installed the FFMEA system within the APFNet Pu'er base during a period of 2020-2021. This system developed by the China

Forestry Star company is able to monitor and quickly assess fire outbreaks in the forest area in real time by using the front-end intelligent monitoring equipment installed in the forest area and back-end command and control platforms in the control centers. Compared to traditional manual forest fire monitoring, the FFMEA system can better provide technical supports for forest fire management and effectively improve the protection of forest resources.

3. Pu'er Forestry and Grassland Research Institute

The Pu'er Forestry and Grassland Research Institute was established in 1979 for undertaking scientific research on tree improvement, chemistry of forest products as also urban forestry, and it has a total of 45 staffs. The Institute has built germplasm resource bank of



Dendrobium spp. and nursery and garden for Chinese medicinal herbs. and also produces seedlings of *Pinus kesiya* and provides technical supports to local government and farmer households. Besides, *Pinnus kesiya* Engineering Technology Research Center of National Forestry and Grassland Administration was established in 2014 based at the Institute. This Center has carried out a wide array of projects/programs related to technological innovation, achievement transformation, technical training and other technical supports by taking a good use of *Pinnus kesiya*. It also focuses on scientific research on breeding of improved varieties, orientation cultivation, sustainable management and utilization of resin and pine wood, which can help upgrade the forestry industry of *Pinnus kesiya* and contribute to green development in Pu'er City.

4. Pu'er Yunjing Feilin New Materials Co., Ltd.

Pu'er Yunjing Feilin New Materials Co., Ltd. (referred to as "Yunjing Feilin") was registered and established in Ning'er County, Pu'er City in 2021, with a registered capital of 190 million yuan. At present, it is the largest comprehensive industrial plant in southwest China and provides services in terms of research and development, manufacturing, sales and logistics of wood plate processing, household production and furniture. Adhering to the development concept of "green development and environmental protection", the Company has devoted itself to contributing to the national strategic of carbon emission peak and carbon



neutralization. The main business scope of Yunjing Feilin includes particleboard manufacturing, processing and sales of wood and wood products, wood-based panel production and sales; production and sales of wood-based panel finishing products; furniture design,

manufacturing and sales; adhesive production and sales etc. Adopted by advanced high-tech, the Yunjing Feilin has built a production line of producing light-weight and super-quality particleboard with an annual output of 400,000 m³ by making full use of wood debris or wood waste. Those particleboard products can be widely used in household, furniture, decoration and other related fields. In line with the global development direction of wood-based panels, a rapid development of the Company also help boost local employment and contribute to local economy through green and sustainable development of forestry industry.

5. Huayu Household Goods Co., Ltd.

Guangxi Guilin Huahai Housewares Co., Ltd. is a medium-sized integrated enterprise specializing in research and development, production and sales of wood clothes hanger, metal clothes hanger and bamboo and wood daily handicrafts, with an annual production of 220 million



clothes hangers. Its final products are mainly sold to more than 50 countries and regions, and the main exporting economies includes the United States, Germany, France, the Netherlands, Hong Kong and so forth. In order to comply with a new growing trend of green trade and green consumption in the international market, Guangxi Guilin Huahai Housewares Co., Ltd. has begun to pay attention to the legality of timber sources and supply chain traceability, and also promised to carry out responsible production and trade of forest products to ensure that the final products come from the certified and well-managed forests. This company gained chain of custody certification (COC) in 2010, then obtained a small-scale

joint certification of woodland with an area of 20, 000 mu in 2014, and in the same year, 100% of all wood products of the Company are came from FSC certified forests. Under the investment attraction of the Simao District Government of Pu'er City in 2022, the Guangxi Guilin Huahai Housewares Co., Ltd. established the Pu'er City Simao Huayu Household Goods Co. Ltd. (referred to as “Huayu Company”) in Pu'er City. Now the Huayu Company is able to annually produce 23 million sets of wooden clothes racks, 1.2 million sets of pine furniture and 12 million sets of kitchen utensils. The final products are mainly made from tree species such as *Betula alnoides*, *Eucalyptus urophylla*, rubber tree, *Pinus kesiya* and *Schima spp.*. Meanwhile, the FSC Joint Certification Office of the Huayu Company was also established. With strong supports from the World Wildlife Fund, the Research Institute of Forestry Policy and Information of the Chinese Academy of Forestry, the Forestry and Grassland Administration of Pu'er City etc., the Huayu Company has carried out a series of FSC certification works since July 2022 in cooperation with Sanmu Forest Farm, Wanzhangshan Forest Farm and Futong Forest Farm etc.. Upon those FSC certification efforts, it can help improve the management of forest resources, increase value of forest products, generate local employment, protect the rights of local residents, as well as enhance the competitiveness of domestic enterprises in international markets.

6. Pu'er Sun River Forest Park

The Pu'er Sun River Forest Park, as one of the first national 4A ranking scenic spots in Pu'er City, preserves the largest and most intact tropical monsoon evergreen broad-leaved forest in China. It is located 31 kilometers southeast part of Simao District, Pu'er City, and has a total area of 21,623



hectares with a forest coverage rate of 91.8% and more than 2,600 kinds of wild animals and plants. The Park is situated in the transitional zone from the North tropical zone to the South tropical zone, resulting in the complexity of regional geographical components and creating a unique, diverse and beautiful forest landscape. The Park also has the reputation of “the Largest Oasis on the Tropic

of Cancer" and "the Last Paradise of Flora and Fauna in China". Within the Park, about 2,104 species of higher plants including ferns and 812 species of animals are thriving, and of which 57 animals are belonging to state key protection such as javan bison (*Bos javanicus*), bee monkey (*Nycticebus bengalensis*), golden Cat (*Pardofelis temminckii*), clouded leopard (*Neofelis nebulosa*), golden leopard (*Panthera pardus*), water deer (*Rusa unicolor*), macaque (*Macaca mulatta*), langurs (*Trachypithecus phayrei*), pangolin (*Manis pentadactyla*), double-horned hornbill (*Buceros bicornis*), python (*Python bivittatus*) etc.. Tourists can have a close-to-nature experience and safely interact with a variety of precious wildlife in the Park. At present, the Park is built as a forest exclusive tourist destination integrating forest experience, dining, accommodation as well as conferences.

7. Cultivation Base for Rare and High Value Medicinal Herbs under Natural Forests



In Pu'er city, a number of enterprises like Pu'er Songmaogu Traditional Chinese Medicine Development Co., Ltd. are specialized in growing rare and high value medicinal herb which helps contribute substantially to poverty alleviation in the mountainous rural areas. Pu'er

Songmaogu Traditional Chinese Medicine Development Co., Ltd. was officially registered in 2013. The Company leases around 333 hectares of state-owned forestland to cultivate wild rare medicinal materials under forests with an approval of the forestry authority. In 2018, the company completed the construction of the whole fidelity quality control system of traditional Chinese medicine, and recently is developed into a comprehensive and demonstration enterprise of integrating protection, development, scientific research, processing, sales, planting technology extension and health-based tourism of transitional Chinese medicine. Over the years efforts, the Company took the lead in breaking through the difficulties in science and technology of reproduction and growth of wild medicinal herbs under forests in China, and those wild medicinal herbs are *Dendrobium spp.*, *Dracaena draco L.*, *Polygonatum kingianum Collett & Hemsl.*,

Paris polyphylla, *Phyllanthus emblica* L., *Balanophora involucrata* Hook. f and others. With an expanding development of the Company, the variety of traditional medicinal products are growing in quality and quantity by biological control measures and the use of spatial imitation wild planting model. At present, the Company established the Good Agricultural Practice (GAP) base of Chinese medicinal herbs with an area of 443.85 mu, of which 147.25 mu of *Dracaena draco* L., 144.9 mu of *Dendrobium* spp, 91.33mu of *Polygonatum kingianum* Collett & Hemsl., 37.71mu of *Phyllanthus emblica* L. and 13.17mu of *Balanophora involucrata* Hook. f were planted, and also a seedling center with an area of 9.19 mu was built. This company has adopted an innovative management model of "enterprise + base + scientific research institute + household farmers" to promote itself and local development. It was awarded as a science and technology-based small and medium-sized enterprise in Yunnan Province in 2015, then recognized as a city-level leading enterprise in 2016. In recent years, the Company has also implemented the eco-tourism program of traditional Chinese Medicine herbs under forests, and was awarded as a national forest health base in 2020. Moreover, the Company has carried out a wide range of popular science education activities in terms of identification, collection, appreciation and biodiversity conservation of commonly used Chinese herbal medicine. Those activities are open to the public and help promote the culture and economy development as well as enhance biodiversity conservation of traditional Chinese medicine in Pu'er city.

8. Fine Variety Ecological Tea Garden

The Fine Variety Ecological Tea Garden is run by Yunnan Pu'er Tea Research Institute, the only tea research institute established within the academic system of Yunnan Province. The Institute has implemented more than 20 research projects funded by the provincial government, the



provincial departments of sciences and technology, agriculture and education. Some outstanding achievements have been made in the germplasm of tea trees in Yunnan, the intrinsic relationship between Pu'er tea processing techniques and its

quality, the functional elements in Pu'er tea, and processing of large-leaf high-quality tea varieties in Yunnan as well as the integrative utilization of tea products. The areas of research include the genetic diversity of Pu'er tea germplasm; the key techniques for managing ecological Pu'er tea plantations, key techniques for post fermentation of Pu'er tea, fine processing and integrative use of Pu'er tea, improving the quality of Pu'er tea by using beneficial microorganisms; appreciation of Pu'er tea quality; safety assessment and evaluation of the quality of Pu'er tea; and the sustainable development of the Pu'er tea culture and so on. All these efforts have contributed enormously to the development of tea industry in Yunnan Province.

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