

# Tentative Schedule for Field Sites

(13<sup>th</sup>-16<sup>th</sup> July 2016 - Pu'er City, Yunnan Province)

Date	Time	Arrangement
13 July 2016	07:00 - 07:45	Breakfast at Golden Spring Hotel
	07:50 - 08:00	Boarding bus
	08:00 - 12:00	Drive from Kunming to Mojiang County
	12:00 - 13:00	Lunch in Mojiang County
	13:00 - 15:00	Drive from Mojiang to Pu'er City and check-in at Man Cheng Hotel
	16:00 - 17:30	Introduction to forestry development in Pu'er City
	18:00 - 19:00	Dinner (hosted by Local Government and Forestry Bureau)
	Evening	Free
14 July 2016	08:00 - 08:30	Breakfast at Hotel
	08:30 - 09:30	Visit Pu'er Fine Variety Ecological Tea Garden
	09:30 - 11:30	Cultivation Base for Rare and High Value Medicinal Herbs under Natural Forests
	12:00 - 13:00	Lunch
	13:00 - 17:30	Visit program of upland conversion for forestation Coffee and Tea Agroforestry Practice at villages and Caiyanghe Nature reserves
	18:00 – 19:00	Dinner
	Evening	Free

<b>Date</b>	<b>Time</b>	<b>Arrangement</b>
15 July 2016	08:00 - 08:30	Breakfast at Hotel
	08:30 – 11:30	Visit the Demonstration Site of Logging Ban Programs of Protection Forests for Ecological Function in Wanzhangshan Forest Farm
	12:00 - 13:00	Lunch
	13:00 – 15:00	Visit Forestry Industry Enterprises (e.g. Rosin and Colophony)
	15:00 – 17:00	Visit Private Owned Plywood Processing Factory
	18:00 – 19:00	Dinner
	Evening:	Free
16 July 2016	08:00 - 08:45	Breakfast at Hotel
	08:45 - 09:00	Check-out
	09:00 - 11:30	Drive from Pu'er City back to Kunming
	11:30 – 12:30	Lunch in Mojiang County
	12:30 – 16:30	Mojiang County to Kunming City
	16:30 – 17:00	Arrive in Kunming and check in at Golden Spring Hotel
	18:30 – 17:30	Dinner
	Evening	Free

## A Brief Introduction to the Field 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 km<sup>2</sup>. It is the largest prefecture in Yunnan in terms of area. Pu'er City is 470 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 625 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 2.37 million, of which 1.44 million are ethnic minorities, accounting for 61% of the total. There are 36 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.

To protect natural forest resources in the region, the Natural Forest Resources Protection Programme is implemented in year 2000 to conserve and manage a total forest area of 8500 km<sup>2</sup>, including 288 km<sup>2</sup> of reforestation. The project has successfully increased forest volume by 26 million cubic meters in a period of 10 years.

Since year 2002, Pu'er City has reforested a total area of 1155 km<sup>2</sup>, including the conversion of 279 km<sup>2</sup> of agricultural land and afforestation of 720 km<sup>2</sup> of bare land. More than 78,000 households have participated in the programme. As a result of this programme, the region has increased forest cover by 2%, and has reduced soil erosion and improved ecological conditions significantly.

## **Field Visit Sites**

### **1. 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. 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. All these efforts have contributed enormously to the development of tea industry in Yunnan Province.

## **2. Cultivation Base for Rare and High Value Medicinal Herbs under Natural Forests**

Jinling Plant Pharmaceuticals Company is the largest of its kind in using the medicinal herbs *Dendrobium* species in China. Currently, the company has three subsidiary companies, two of which are in China and one in Oudomxai Province of the Laos PDR. All of these subsidiary



companies are specialized in growing rare and high value medicinal herbs, such as *Dendrobium* species, and they are the leading enterprises in Pu'er City. For a decade since the founding of the company, it has become the earliest *Dendrobium* growing enterprise, and the largest of its kind in the region. The company has adopted the management model of "Company + Plantation Bases + Farmer Households". It has promoted the development of more than 30 plantation bases and 3,000 farmer households specialized in growing *Dendrobium* medicinal herbs which have contributed substantially to poverty alleviation amongst the rural farmers in the mountainous areas. These efforts further contributed significantly to the sustainable extraction and the use of *Dendrobium* resources, and to promote the modernization, internationalization and industrialization of traditional Chinese herbal medicines.



### **3. Upland Agroforestry Practice (Coffee and Tea Agroforestry Demonstration Site)**



The mixed planting of coffee under the economic forest was a dominated upland agroforestry model in Dakaihe Village, which was invented from traditional shifting cultivation, such as slash and burn or swidden. The total area is around 3.1 km<sup>2</sup>, producing

a net income of 3,580 yuan per person annually for the village.

### **4. Caiyanghe Provincial Nature Reserve**

Caiyanghe Provincial Nature Reserve is located in the southeastern part of Simao District in Pu'er Municipality. The nature reserve is located in the low latitude zone in Southern Yunnan and is covered by typical subtropical forest ecosystems of Southern



China. The nature reserve was established in 1981, it has a total area of 149 km<sup>2</sup>, with the core zone of 45.3% and an experimental zone of 54.7%. In 2009, the nature reserve became a part of Pu're National Park (216.23 km<sup>2</sup>) to strengthen forest management and the development of eco-tourism.

Wild animals: There are 415 wild animal species listed for national and provincial protection in the nature reserve, including 71 species of national protection and 344 species of provincial-level protection. These include 102 mammal, 222 bird and 91 reptile species. The species listed for key monitoring

include: Indian buffalo (*Bubalus bubalis*), sambar deer (*Hydropotes inermis*), Indian muntjac (*Muntiacus muntjak*), red jungle fowl (*Gallus gallus*), silver pheasant (*Lophura nycthemera*), great white egret (*Oriolus traillii Vigors*), giant water monitor (*Varanus salvator*), python (*Python molurus bivittatus*) and latera-stripe salient tree frog (*Chirixalus vittatus*).

Vegetation and plants: 2,104 higher plant species have been recorded in the nature reserve belonging to 883 genera in 209 families. There are 892 species of medicinal plants in the reserve belonging to 530 genera in 163 families. In total, 36 species are listed for protection, including one species for National Class I Protection, 15 species for National Class II Protection, and 20 species for provincial protection in Yunnan. Fifty species are endemic to Yunnan.

## 5. Wanzhangshan Forest Farm

Wanzhangshan Forest Farm is a new type of state-owned forest farm that was created through reforming a previous forest logging enterprise. The forest farm covers 88 km<sup>2</sup>, of which 42.7 km<sup>2</sup> is commercial forest and 45.3 km<sup>2</sup> is amenity/ecological forests that are distributed in the first



level tributary of the Lancang (Mekong) River. 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 km<sup>2</sup> of plantation forest has been established and eight million trees have been planted. The indigenous species, *Pinus kesiya* (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.

## **6. Forestry industry enterprises (Rosin/Colophony)**

Pu 'er City in Yunnan province is an important forest industry production base, the initial formation of the forestry board, forest, forest paper industrial system, the forest industry in the city's economy proportion nearly 30%. The total output value of forestry from RMB 4.4billion yuan in 2008 to RMB12.3 billion yuan in 2012, in which, income from rosin is more than 1 billion yuan. The forest industry has maintained rapid and healthy development momentum. The city's major forest products such as plywood, rosin, pulp yield



increase by more than 15% compared to the same period, and the economic efficiency of enterprises improved significantly, cash income of the farmers in the drought conditions are still grew by more than 10%, the "hope in the mountains, rich by forest" of majority of farmer's aspirations put into reality.



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